Pioneer *sound.vision.soul*

Service Manual

XV-HTD520

ORDER NO.
RRV2606

DVD/CD RECEIVER

XV-HTD520

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Reginal restriction codes (Region No.)	Remarks
XV-HTD520	KUCXJ	AC120V	1	

For details, refer to "Important symbols for good services" on the next page.

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ⓒ**PIONEER CORPORATION 2002**

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SAFTY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

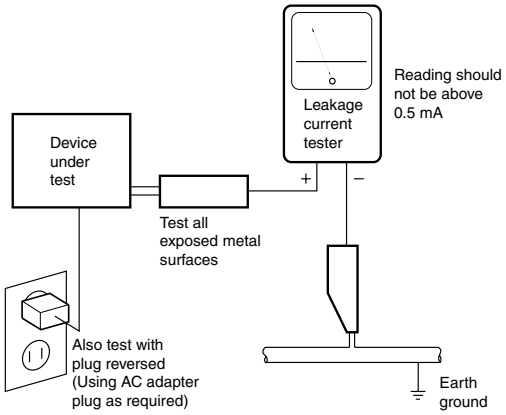
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier Section

Continuous power output (RMS)
- Front ..... 115 W, per channel (1 kHz, 10 % T.H.D., 8 Ω)
- Surround ..... 52 W, per channel (1 kHz, 10 % T.H.D., 6 Ω)
- Center ..... 52 W, per channel (1 kHz, 10 % T.H.D., 6 Ω)
- Subwoofer ..... 114W (100Hz 10% T.H.D., 8Ω)

DVD Player (Audio)Section

S/N ratio ..... 95 dB (EIAJ)
Dynamic range ..... 95 dB (EIAJ)
Distortion 0.004%
Frequency response
- 48 kHz sampling ..... 4 Hz to 22 kHz
- 96 kHz sampling ..... 4 Hz to 44 kHz

Wow & flutter ..... Below measurable levels (± 0.001% W.PEAK)

DVD Player (Video) Section

Output level ..... 1 Vp-p (75 Ω)
Video Y output level ..... 1 Vp-p (75 Ω)
Video C output level ..... 286 mVp-p (75 Ω)

DVD (Other jacks) Section

Digital coaxial input (PCM/DD/DTS) ..... Coaxial connector

Tuner Section

FM tuner
- Frequency range ..... 87.5 MHz to 108.0 MHz
- Antenna ..... 75 Ω unbalanced

AM tuner
- Frequency range ..... 530 kHz to 1,700 kHz (10 kHz step)
- Antenna ..... loop antenna (supplied)

Power Supply Section

Power requirements ..... AC 120 V, 60 Hz
Power consumption ..... 186 W
Power consumption in standby mode ..... 0.88 W

Miscellaneous

DVD Receiver
- Dimensions ..... 420 (W) x 455 (D) x 125 (H) mm ($16\ ^{9}/_{16}$ (W) x $17\ ^{15}/_{16}$ (D) x $4\ ^{15}/_{16}$(H) in.)
- Weight ..... 9.0 kg (19.84 lbs)

Supplied Items

Remote control 1
AA/R6P dry cell batteries 2
AM loop antenna 1
FM antenna 1
Video cord (yellow) 1
Power cord 1
Operating instructions 1
Warranty card 1

Note:
• Specifications and design subject to possible modification without notice, due improvements.

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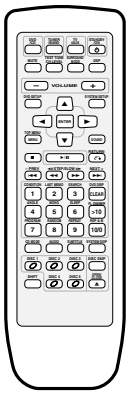
** “DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.

■ Accessories

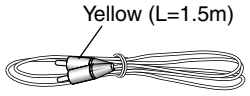
● Remote Control Unit x 1 (XXD3033)



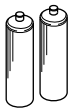
● FM Antenna x 1 (ADH7004)

● AM Loop Antenna x 1 (ATB7009)

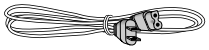
● Video Cord x 1 (VDE1065)



● AA/R6P Dry Cell Batteries x 2 (VEM-013)



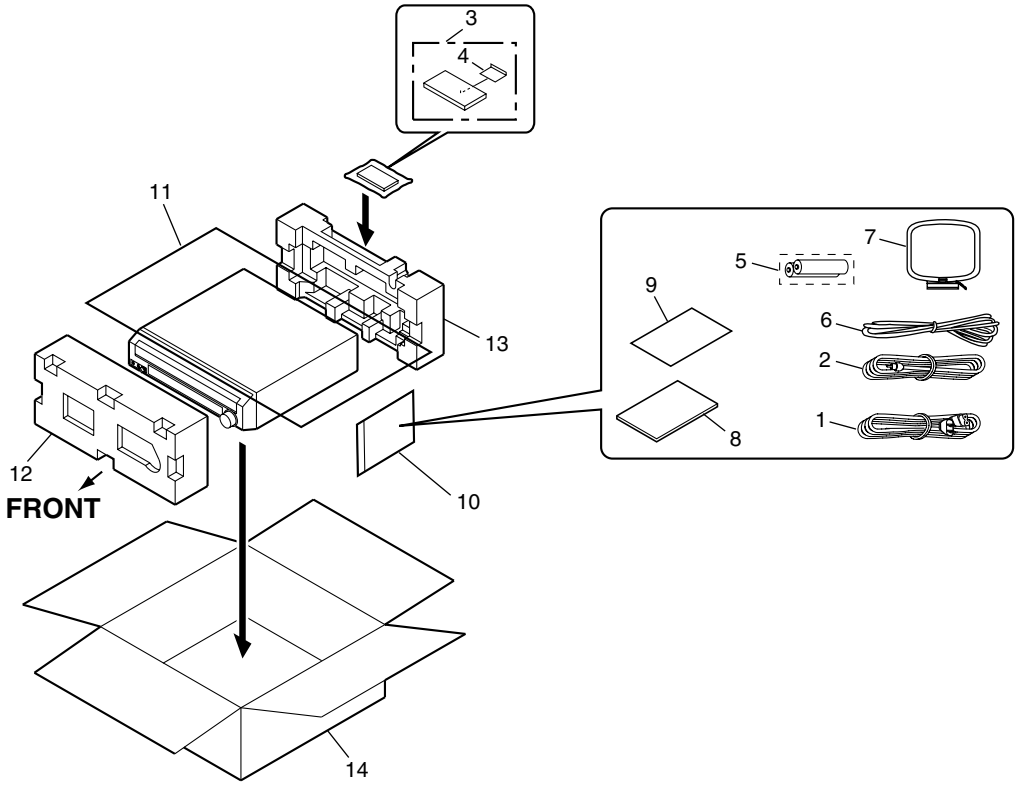
● Power Cord x 1 (XDG3007)



2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING

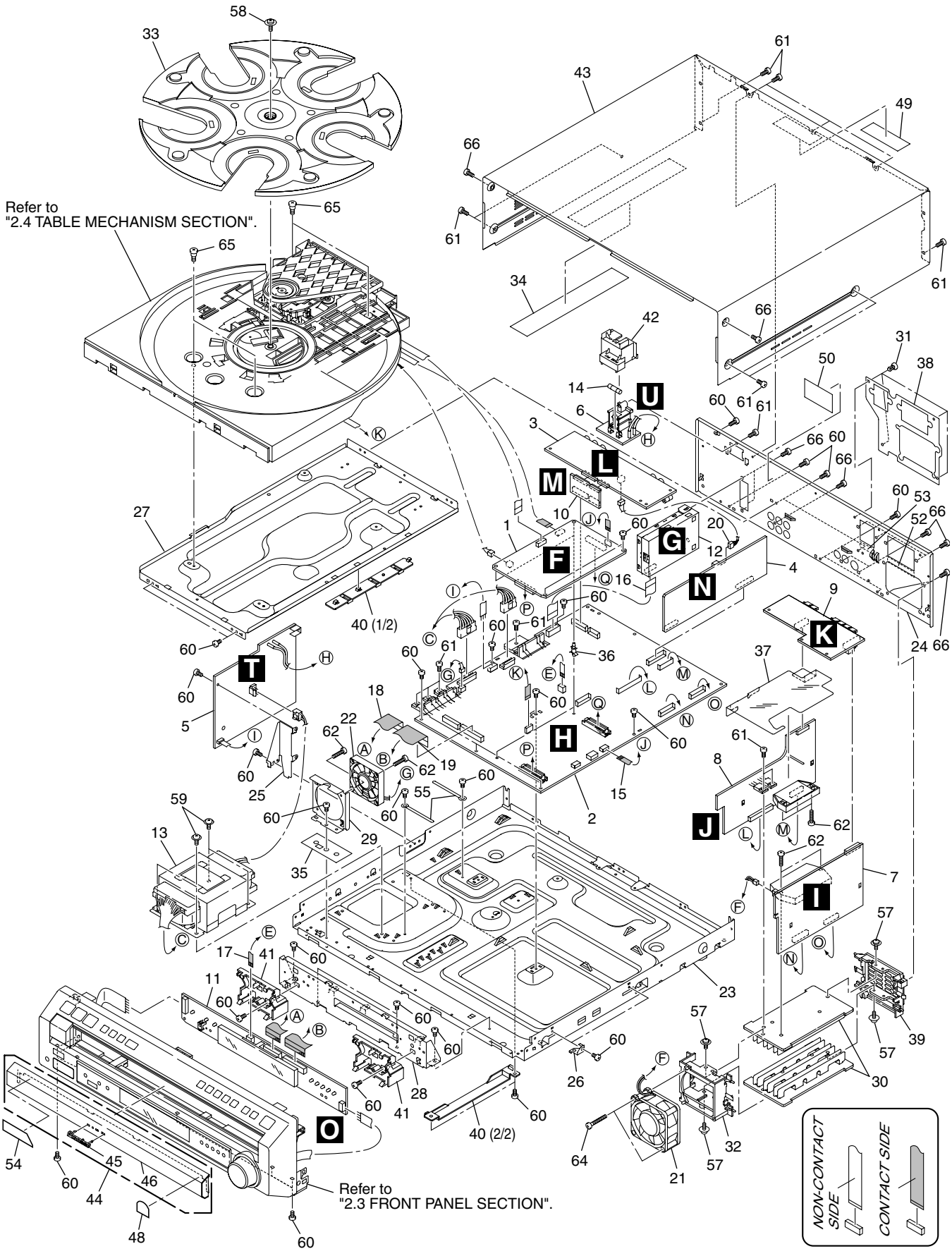


PACKING parts List

Mark	No.	Description	Part No.
⚠	1	Power Cord	XDG3007
	2	Video Cord (L = 1.5m)	VDE1065
	3	Remote Control Unit	XXD3033
	4	Battery Cover	XZN3117
NSP	5	Dry Cell Battery (R6P, AA)	VEM-013
	6	FM Antenna	ADH7004
	7	AM Loop Antenna	ATB7009
	8	Operating Instructions (English/French)	XRE3062
NSP	9	Warranty Card	ARY7045
NSP	10	Polyethylene Bag (0.03 x 230 x 340)	Z21-038
	11	Packing Sheet	AHG7010
	12	Front Pad	XHA3128
	13	Rear Pad	XHA3129
	14	Packing Case	XHD3296

5 6 7 8

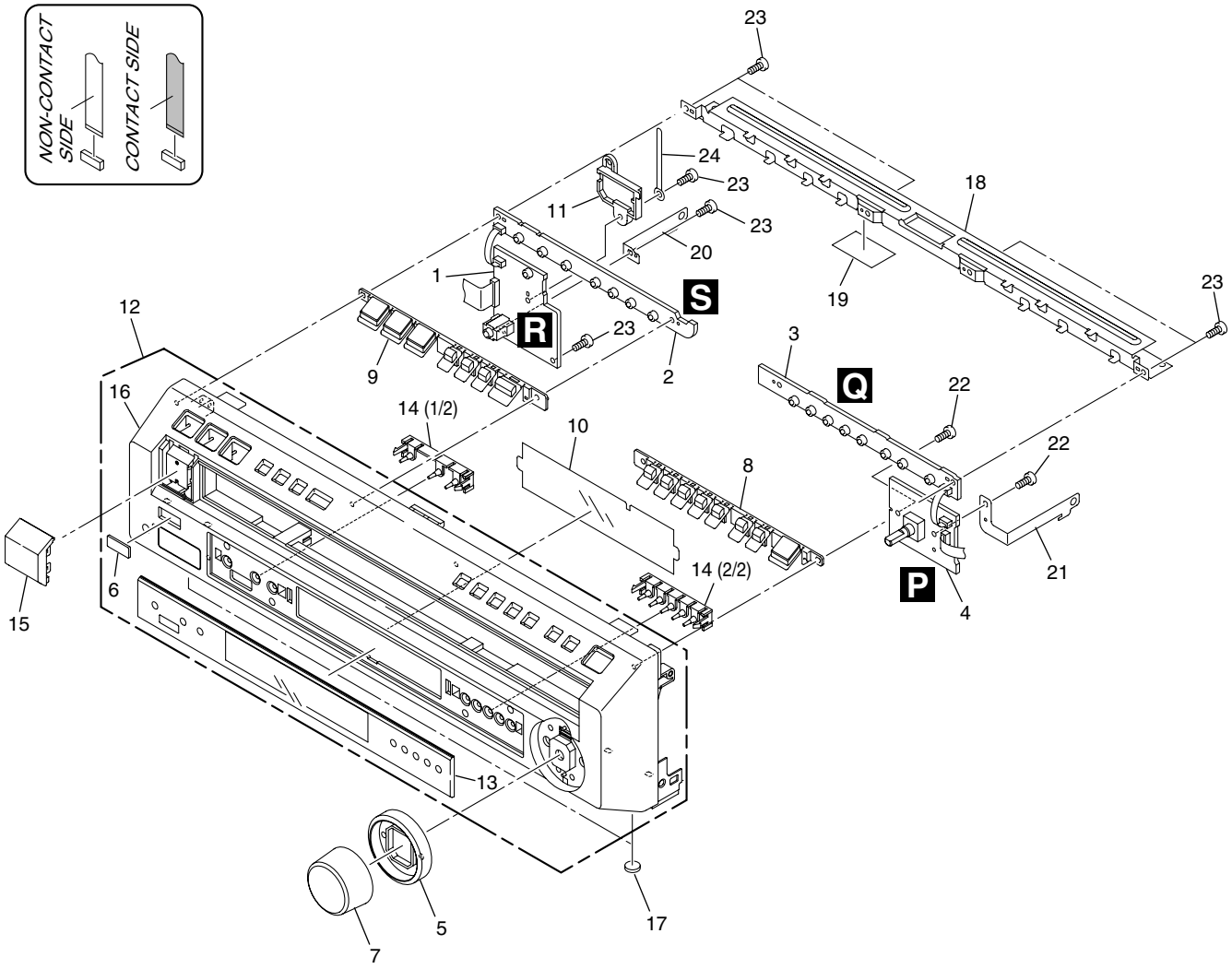
2.2 EXTERIOR


Refer to
"2.4 TABLE MECHANISM SECTION".
Refer to
"2.3 FRONT PANEL SECTION".
NON-CONTACT SIDE
CONTACT SIDE

EXTERIOR parts List

Mark	No.	Description	Part No.
	1	DVDM Assy	XWX3034
	2	MAIN Assy	XWX3055
	3	CONNECT Assy	XWX3060
	4	DSP Assy	XWX3065
	5	PRIMARY Assy	XWZ3588
	6	INLET Assy	XWZ3593
	7	F.AMP Assy	XWZ3595
	8	R.AMP Assy	XWZ3599
	9	SPEAKER Assy	XWZ3603
	10	B TO B Assy	XWZ3615
	11	DISPLAY Assy	XWZ3606
	12	FM/AM TUNER Module	AXQ7228
⚠	13	Power Transformer (T1)	XTS3061
⚠	14	Fuse (FU1 : 5A/125V)	REK1067
	15	7P F.F.C/30V (MAIN CN8902 - DVDM CN55)	XDD3094
	16	13P F.F.C/60V (TUNER CN201 - MAIN CN5701)	XDD3108
	17	4P F.F.C/60V (DISPLAY CN5807 - MAIN CN5501)	XDD3109
	18	19P F.F.C/60V (MAIN CN5509 - DISPLAY CN5801)	XDD3111
	19	27P F.F.C/60V (MAIN CN5511 - DISPLAY CN5802)	XDD3112
	20	Connector Assy 3P (DSP CN3703 - CONNECT CN5207)	XDE3052
	21	DC Fan Motor	XXM3003
	22	DC Fan Motor	XXM3004
NSP	23	Chassis	XNA3010
	24	Rear Panel	XNC3159
	25	PCB Angle	XNG3057
	26	DV Bracket	XNG3064
	27	Mecha. Frame	XNG3076
	28	Front Frame	XNG3081
	29	FAN Holder	XNG3089
	30	Heat Sink	XNH3021
	31	Push Rivet	AEC7025
	32	FAN Mold	AMR7321
	33	Rotary Tray	VNK4923
	34	Bonnet Cushion	XEB3027
	35	FAN Cushion	XEB3031
NSP	36	PCB Support	XEC3020
	37	Barrier AMP.	XEC3029
	38	Rear Cover	XEC3035
	39	Rear Mold	XMR3038
	40	Twin Cap	XMR3049
	41	PCB Holder	XMR3051
	42	Inlet Holder	XMR3056
	43	Bonnet Case	XZN3124
NSP	44	Tray Cap Assy	XXG3124
	45	Pioneer Name Plate	VAM1129
	46	Tray Cap	XAN3046
	47	•••••	
NSP	48	Energy Star Label	AAX7876
	49	65 Label	ARW7050
NSP	50	Label	VRW-548
	51	•••••	
	52	Speaker Label L	XAX3318
	53	Speaker Label S	XAX3321
NSP	54	Getter	XAX3323
	55	Cord Clamper	RNH-184
	56	•••••	
	57	Screw	ABA1021
	58	Screw	ABA7069
	59	Screw	ASZ40P060FMC
	60	Screw	BBZ30P060FMC
	61	Screw	BBZ30P080FZK
	62	Screw	BBZ30P160FMC
	63	•••••	
	64	Screw	BPZ30P350FZK
	65	Screw C	PBA1106
	66	Screw	VPZ30P080FZK

2.3 FRONT PANEL SECTION



FRONT PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	HP MIC Assy	XWZ3608
	2	FUNCTION KEY Assy	XWZ3612
	3	DISC KEY Assy	XWZ3613
	4	JOG Assy	XWZ3614
	5	Vol Ring	AAK7816
	6	DVD V Plate	VAM1120
	7	VOL. Knob Assy	XAC3001
	8	Disc Button	XAD3147
	9	Function Button	XAD3148
	10	FL Filter	XEC3015
	11	Rear Cap	XMR3048
NSP	12	Front Panel Assy	XXG3112
	13	Display Panel	XAK3309
	14	Lens	XAK3310
	15	Power Cap	XAK3311
	16	Front Panel	XMB3083
	17	Leg	AEB7090
	18	Top Frame	XNG3077
	19	Sensor Cushion	XEB3026
	20	GND Plate L	XNG3079
	21	GND Plate R	XNG3085
	22	Screw	BPZ30P080FMC
	23	Screw	VPZ30P100FMC
	24	Cord Clamper	RNH-184

2.4 TABLE MECHANISM SECTION

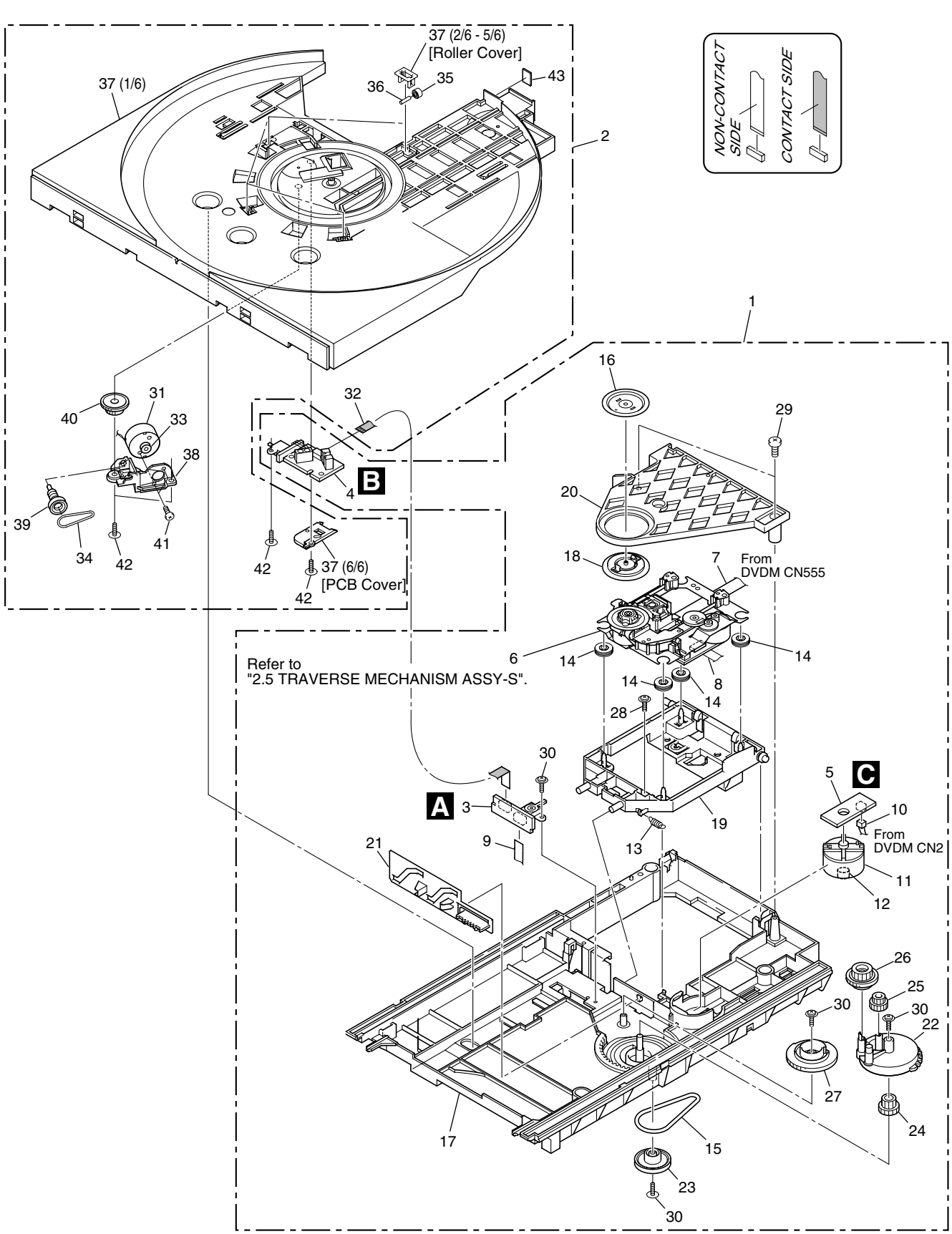
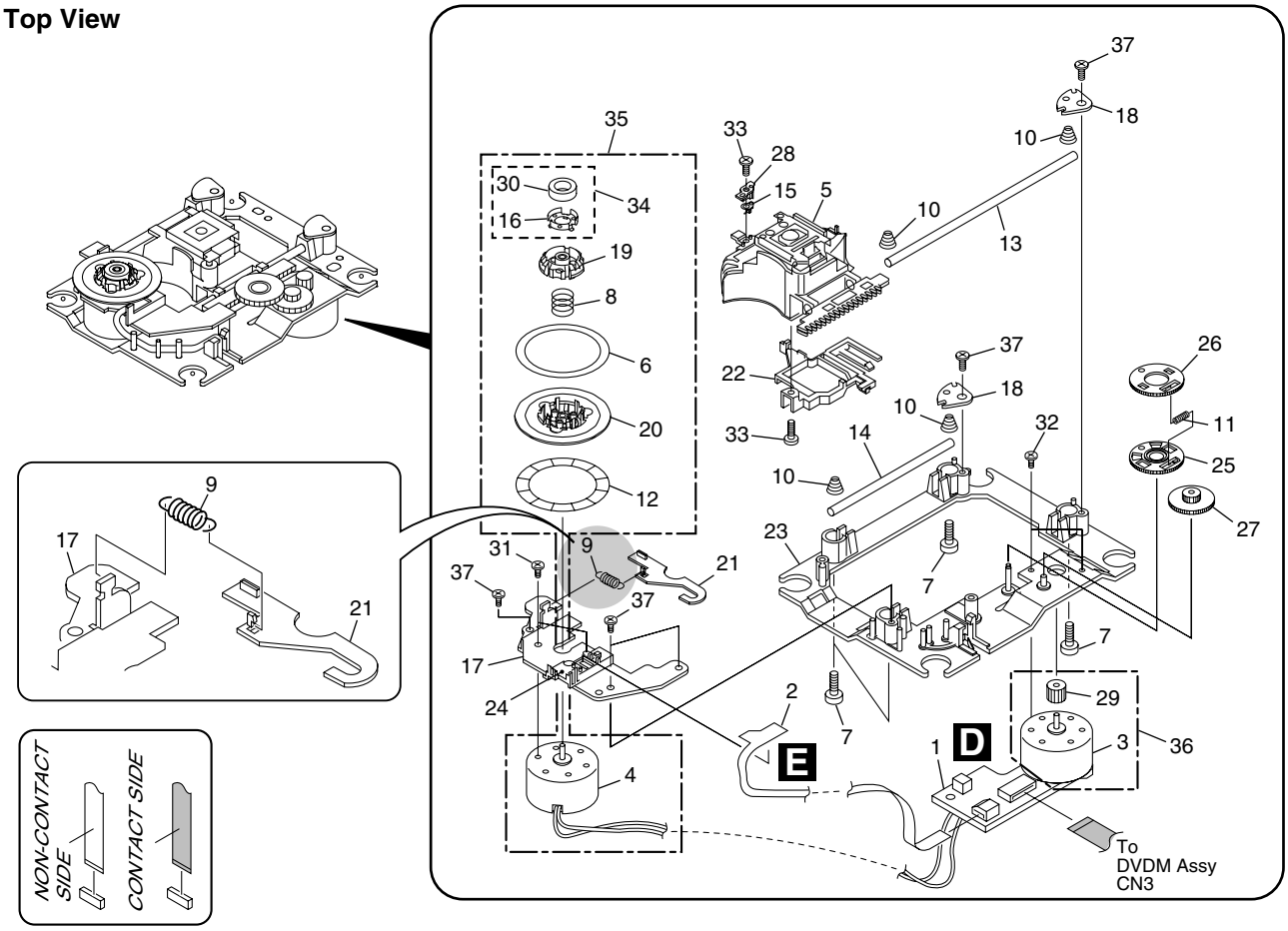


TABLE MECHANISM SECTION parts List

Mark	No.	Description	Part No.
NSP	1	5C Mech. Base Assy	XXA3027
NSP	2	5C Table Mech. Assy	VWT1175
NSP	3	TRSB Assy	XWZ3461
NSP	4	SSRB Assy	XWZ3462
NSP	5	LOMB Assy	XWZ3463
	6	Traverse Mechanism Assy-S	VXX2653
	7	Flexible Cable 24P	XDD3074
	8	Flexible Cable 8P (T)	XDD3075
	9	Flexible Cable 8P (M)	XDD3076
	10	Housing Assy 2P	XDE3039
	11	Slider Motor (LOADING)	VXM1033
	12	Motor Pulley	PNW1634
	13	Spring	VBH1333
	14	Floating Rubber	VEB1286
	15	Load Belt	VEB1316
	16	Clamper Plate	VNE2162
	17	Mech. Base	VNK4826
	18	Clamper	VNL1738
	19	Float Base	VNL1907
	20	Clamper Holder	VNL1872
	21	Clamp Cam	VNL1873
	22	Planet Base	VNL1874
	23	Gear Pulley	VNL1876
	24	Loading Gear (1)	VNL1877
	25	Loading Gear (2)	VNL1908
	26	Drive Gear	VNL1879
	27	Change Gear	VNL1904
	28	Screw	ABA7009
	29	Screw	BPZ30P080FMC
	30	Screw	Z39-019
	31	Motor (TRAY)	DXM1118
	32	Flexible Cable (7P)	VDA1835
	33	Motor Pulley	PNW1634
	34	Tray Belt	VEB1317
	35	Rubber Roller	VEB1318
	36	Roller Shaft	VLL1511
	37	Slide Table	VNK5060
	38	Motor Holder	ANW7252
	39	Worm Gear	VNL1881
	40	Tray Gear	VNL1882
	41	Screw	JGZ17P028FMC
	42	Screw	Z39-019
	43	CR Cushion 2	XEB3020

2.5 TRAVERSE MECHANISM ASSY-S

• **Top View**

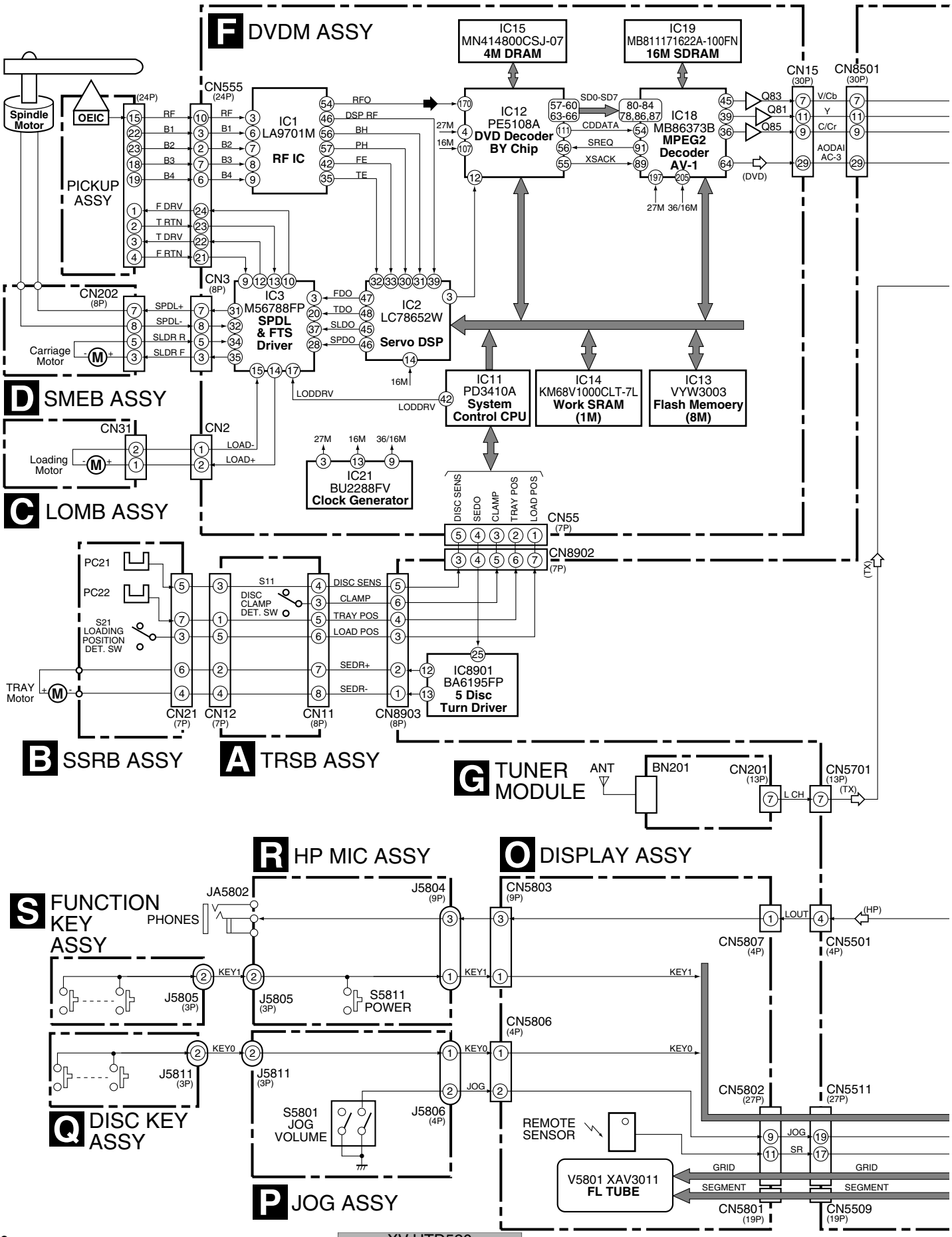


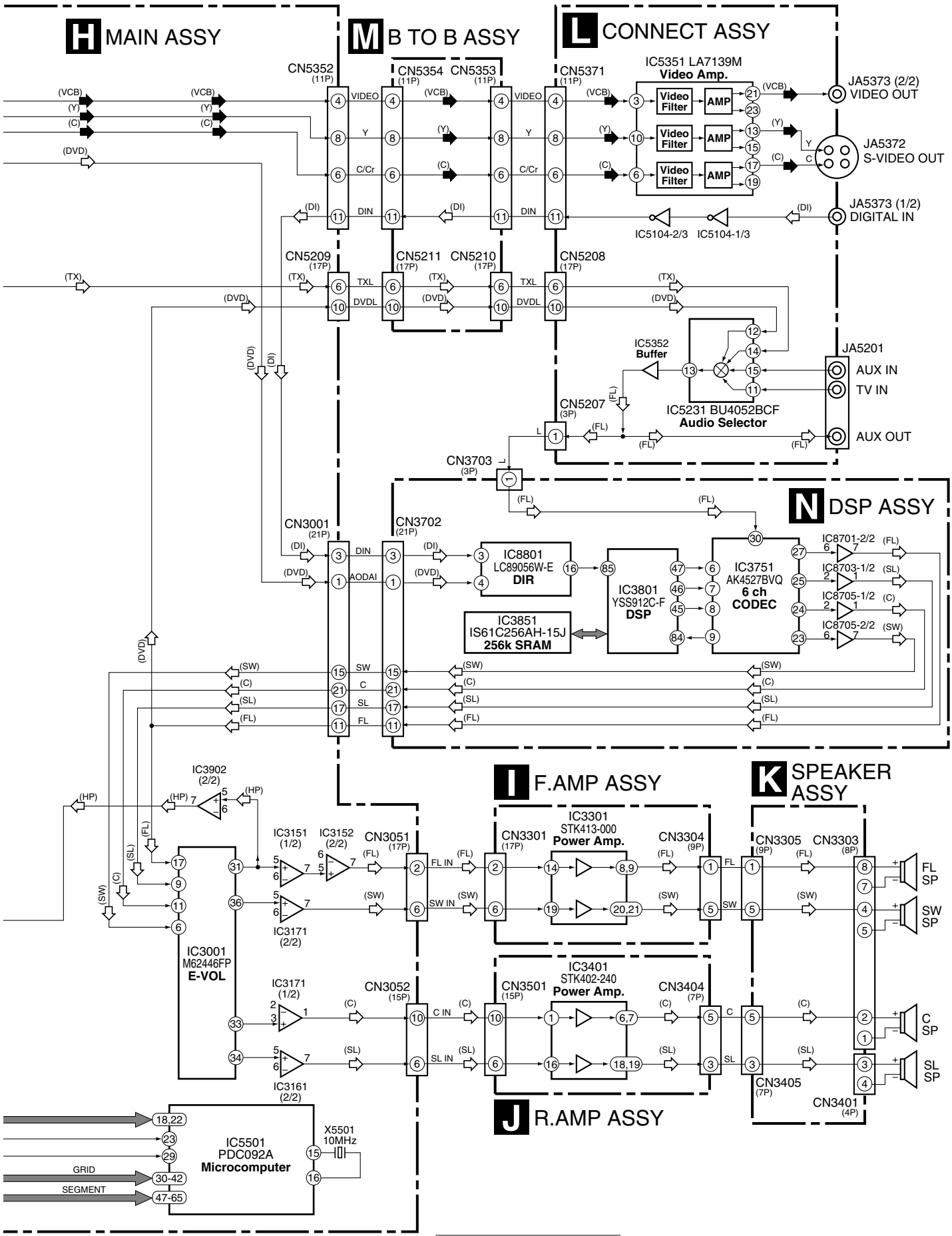
TRAVERSE MECHANISM ASSY-S parts List

Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048
NSP	2	FGSB Assy	VWG2009
NSP	3	Motor (CARRIAGE)	VXM1079
NSP	4	Motor (SPINDLE)	VXM1084
⚠	5	Pickup Assy	VWY1055
	6	Table Sheet	DEC2040
	7	Screw	VBA1058
	8	Centering Spring	VBH1278
	9	Hook Spring	VBH1317
	10	Skew Spring	VBH1303
	11	Gear Spring	VBH1308
NSP	12	Reflected Sheet	VEC1959
	13	Guide Bar	VLL1504
	14	Sub-guide Bar	VLL1505
	15	Hold Spring	VNC1017
NSP	16	Magnet Holder	VNE2070
NSP	17	Motor Base	VNE2154
NSP	18	Cover	VNE2155
	19	Centering Ring	VNL1746
NSP	20	Disc Table	VNL1747
	21	Hook	VNL1770
	22	FFC Holder	VNL1802
	23	Mechanism Base	VNL1806
	24	FG Holder	VNL1807
	25	Gear A	VNL1808
	26	Gear B	VNL1809
	27	Gear C	VNL1810
	28	Slider	VNL1811
	29	Gear D	VNL1814
NSP	30	Magnet	VYM1024
	31	Screw	JFZ17P025FZK
	32	Screw	JGZ17P028FMC
	33	Screw	VBA1051
	34	Magnet Holder Assy	VXX2507
	35	Spindle Motor Assy	VXX2649
	36	Carriage Motor Assy	VXX2650
	37	Screw	PBA1069

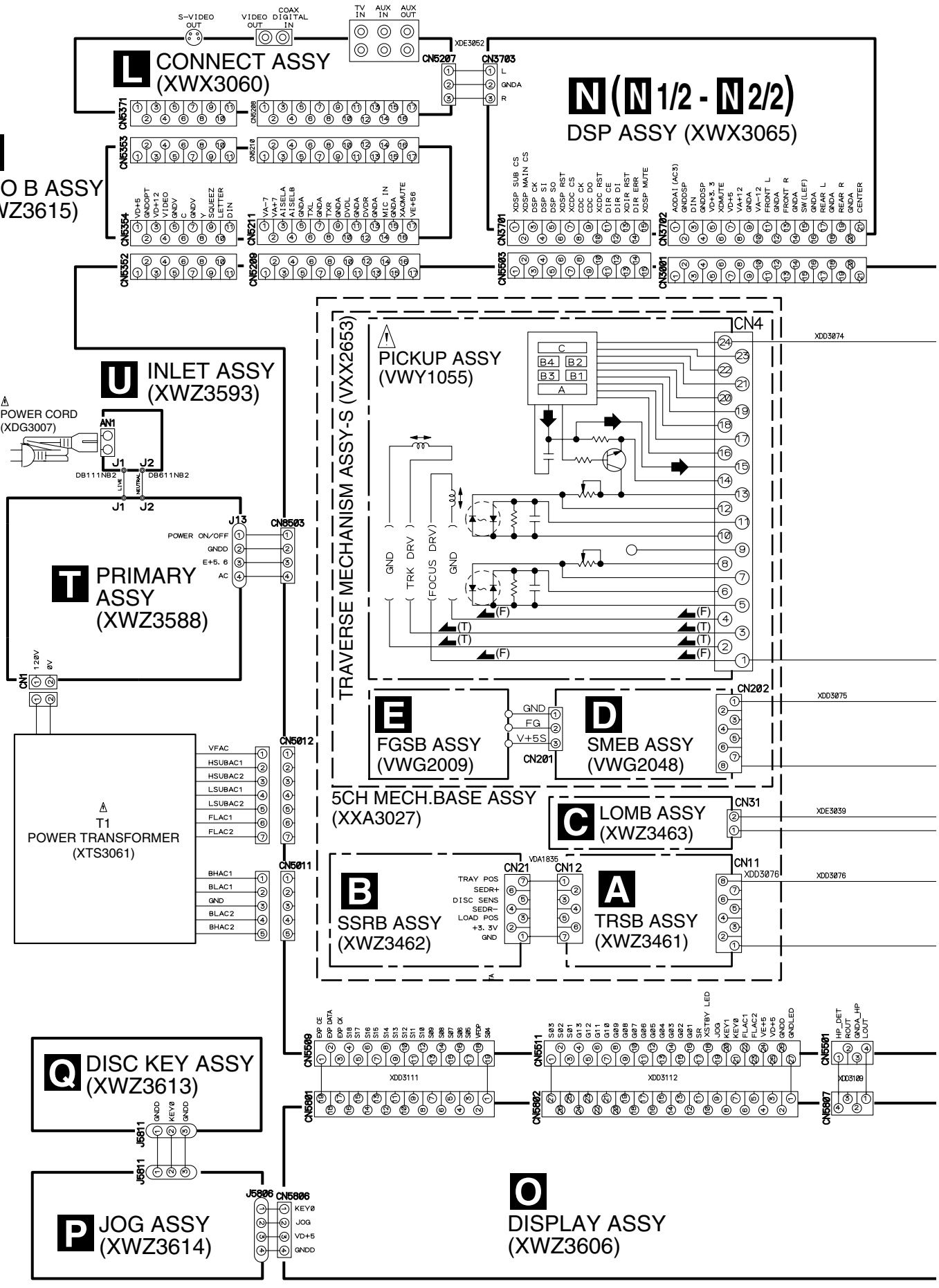
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

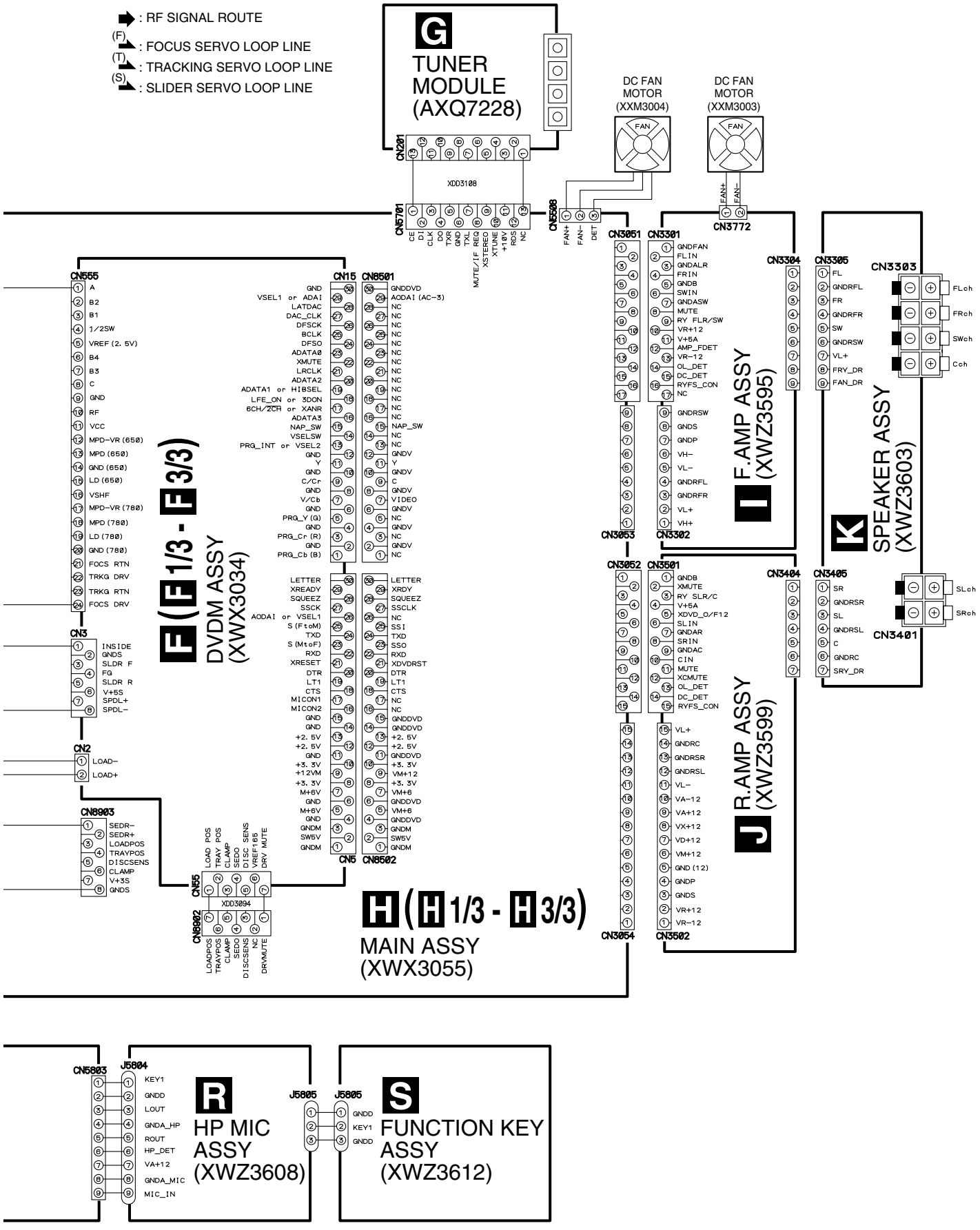



H MAIN ASSY
M B TO B ASSY
L CONNECT ASSY
N DSP ASSY
I F.AMP ASSY
J R.AMP ASSY
K SPEAKER ASSY
IC5351 LA7139M
Video Amp.
Video Filter
AMP
JA5373 (2/2)
VIDEO OUT
JA5372
S-VIDEO OUT
JA5373 (1/2)
DIGITAL IN
IC5104-2/3
IC5104-1/3
IC5352
Buffer
JA5201
AUX IN
TV IN
AUX OUT
IC5231 BU4052BCF
Audio Selector
IC8801
LC89056W-E
DIR
IC3801
YSS912C-F
DSP
IC3751
AK4527BVQ
6 ch
CODEC
IC3851
IS61C256AH-15J
256k SRAM
IC8701-2/2
IC8703-1/2
IC8705-1/2
IC8705-2/2
IC3902
(2/2)
IC3151
(1/2)
IC3152
(2/2)
IC3171
(2/2)
IC3171
(1/2)
IC3161
(2/2)
IC3001
M62446FP
E-VOL
IC3301
STK413-000
Power Amp.
IC3401
STK402-240
Power Amp.
IC5501
PDC092A
Microcomputer
X5501
10MHz
FL SP
SW SP
C SP
SL SP
CN5352
CN5354
CN5353
CN5371
CN5209
CN5211
CN5210
CN5208
CN5207
CN3703
CN3001
CN3702
CN3051
CN3052
CN3301
CN3304
CN3305
CN3303
CN3501
CN3404
CN3405
CN3401
VIDEO
Y
C/Cr
DIN
TXL
DVDL
AODAI
SW
C
SL
FL
FL IN
SW IN
C IN
SL IN
GRID
SEGMENT

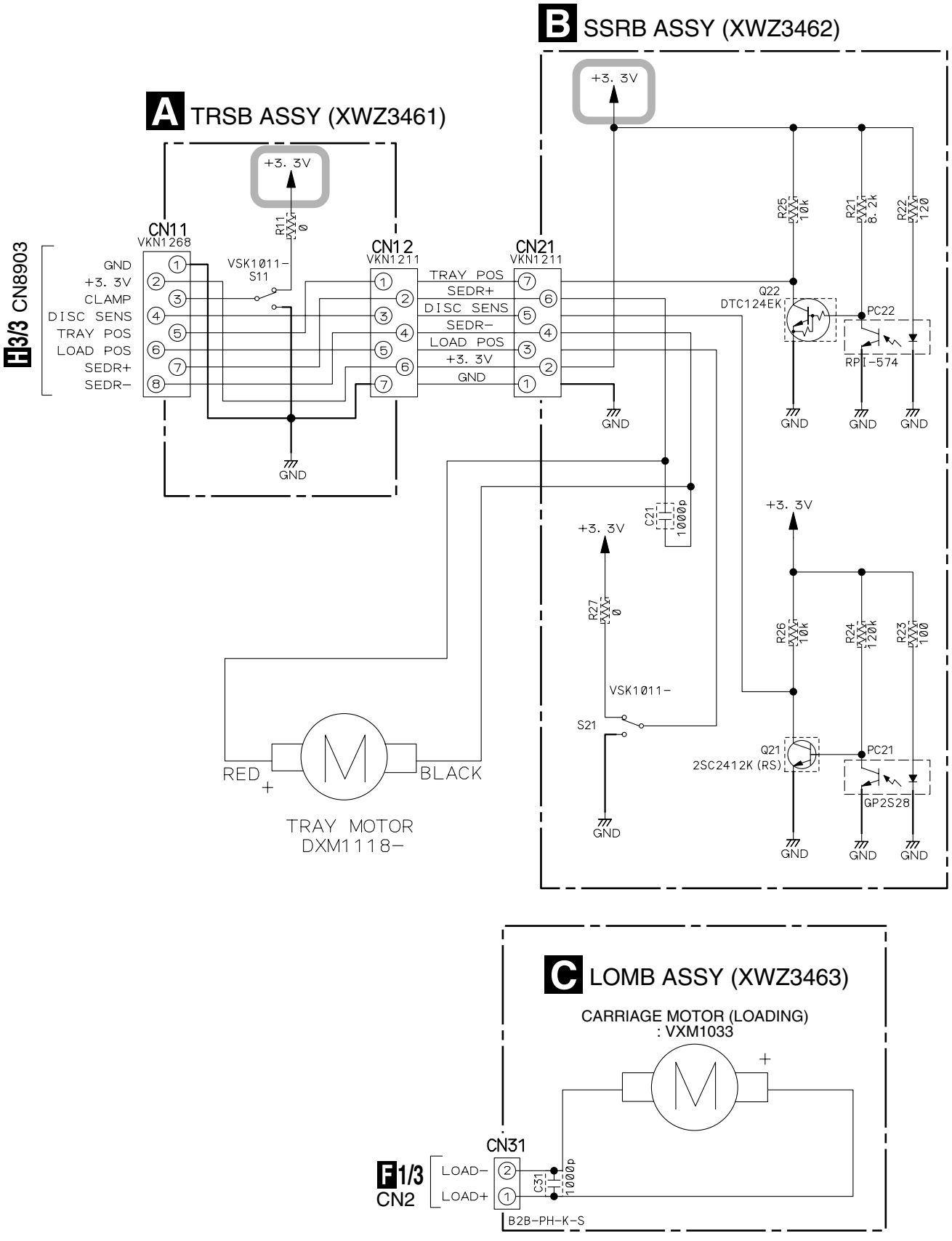
3.2 OVERALL WIRING DIAGRAM



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".


: RF SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE
G TUNER MODULE (AXQ7228)
DC FAN MOTOR (XXM3004)
DC FAN MOTOR (XXM3003)
F (F 1/3 - F 3/3) DVDM ASSY (XWX3034)
I F.AMP ASSY (XWZ3595)
J R.AMP ASSY (XWZ3599)
K SPEAKER ASSY (XWZ3603)
H (H 1/3 - H 3/3) MAIN ASSY (XWX3055)
R HP MIC ASSY (XWZ3608)
S FUNCTION KEY ASSY (XWZ3612)

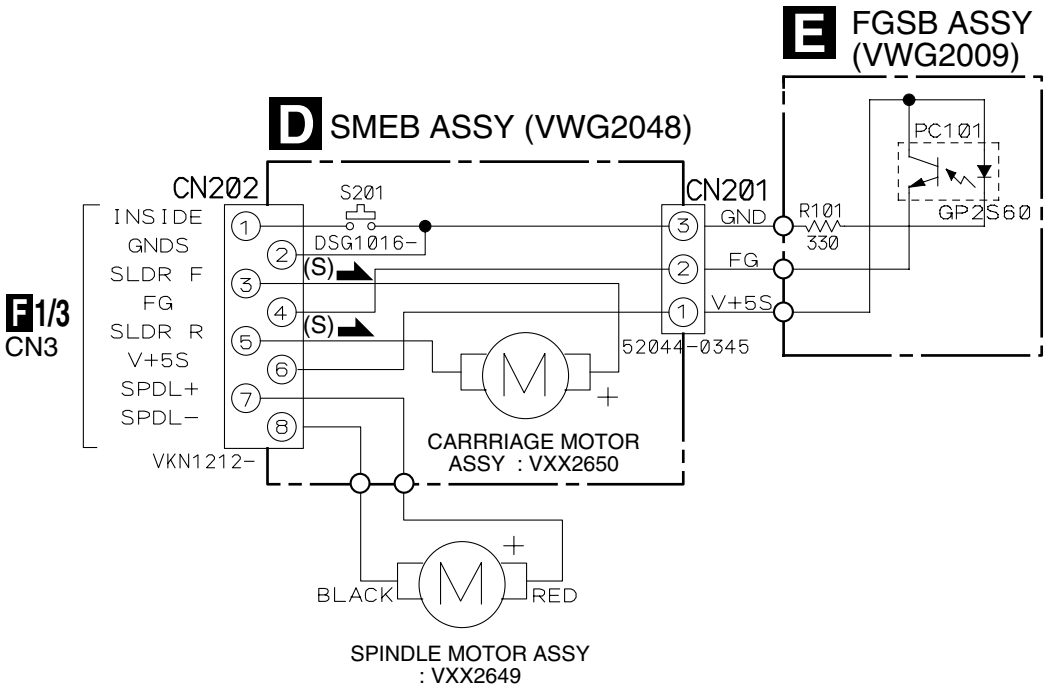
3.3 TRSB, SSRB, LOMB, SMEB and FGSB ASSYS



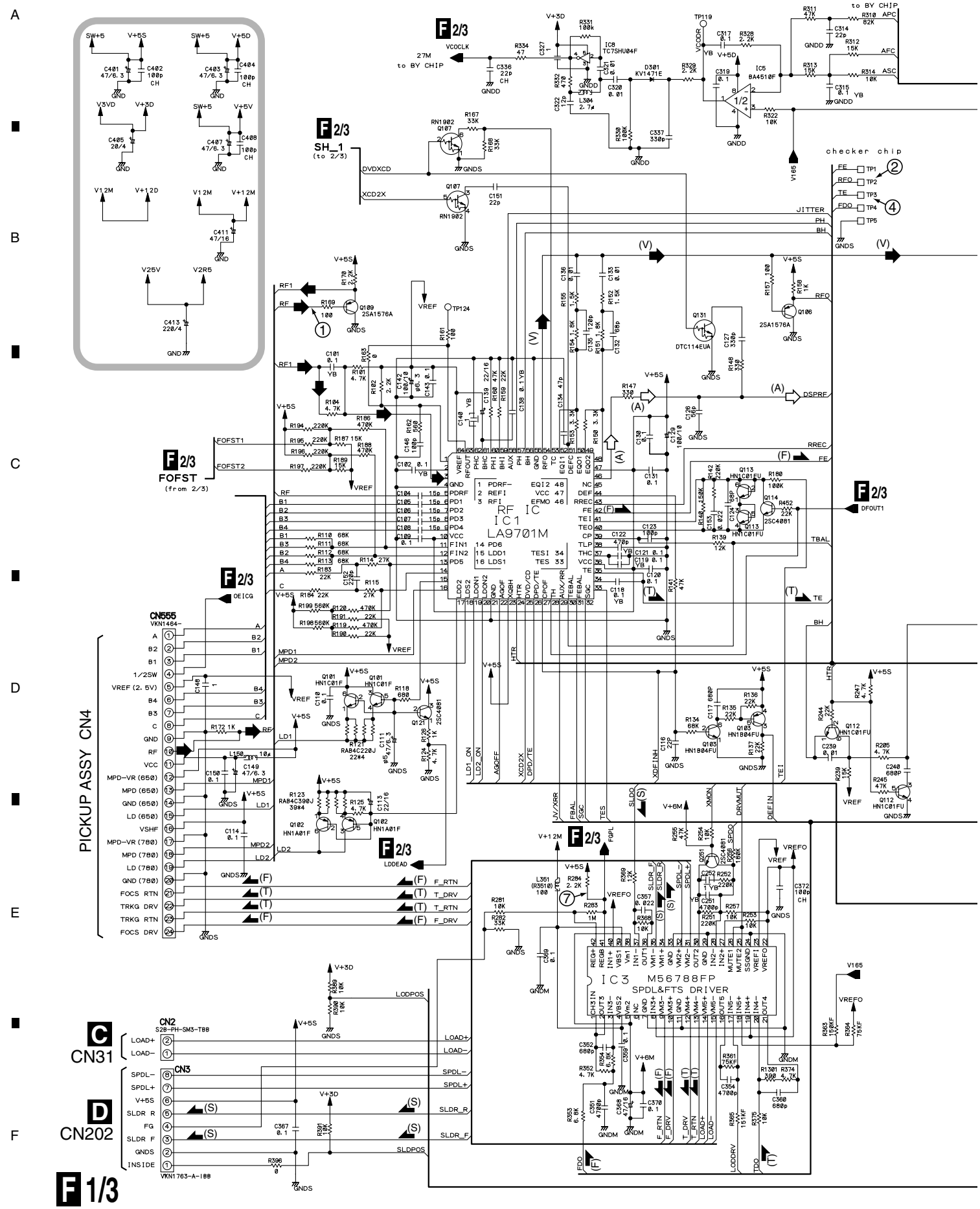
: The power supply is shown with the marked box.

A B C

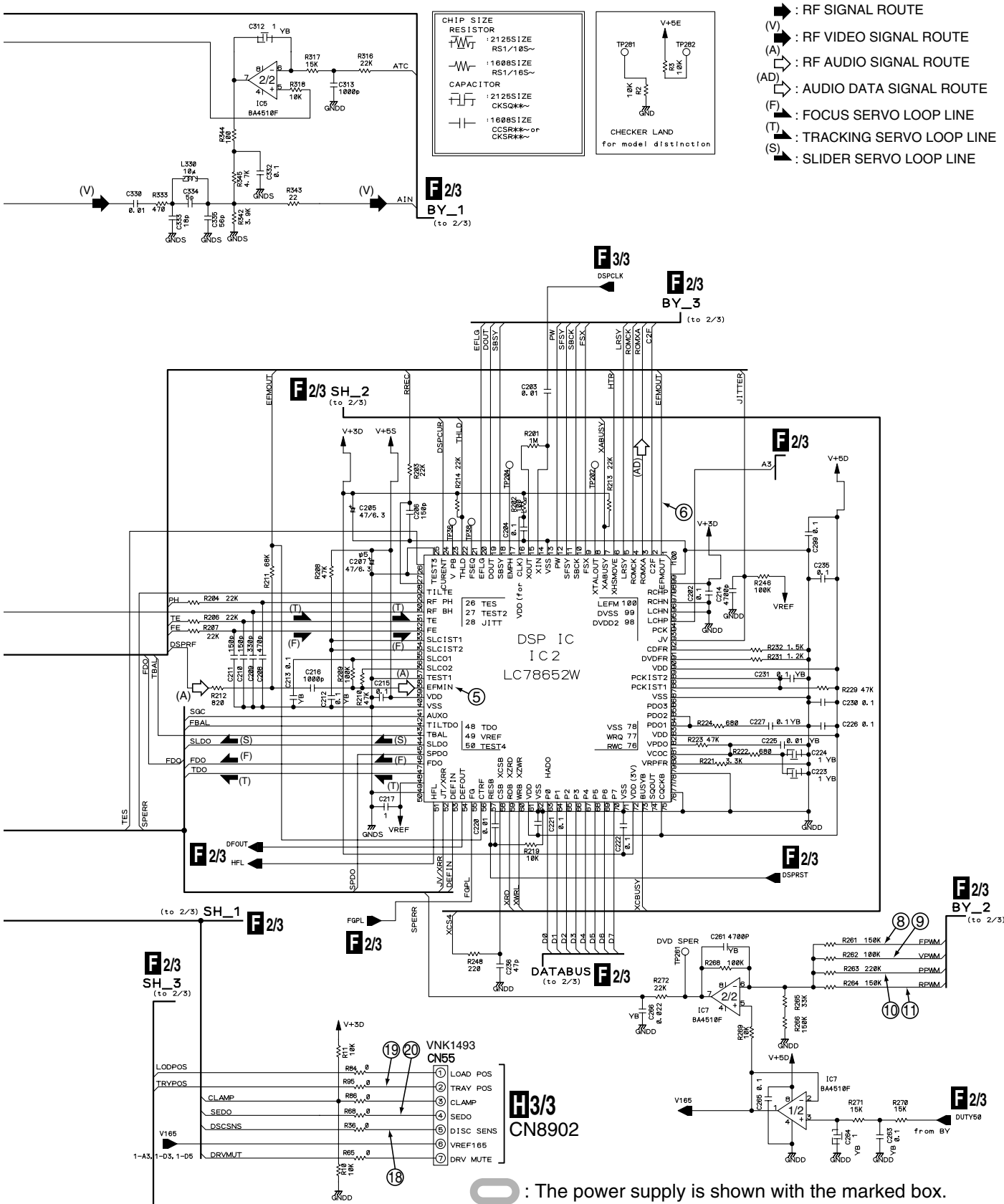
(S) : SLIDER SERVO LOOP LINE



3.4 DVDM ASSY (1/3)

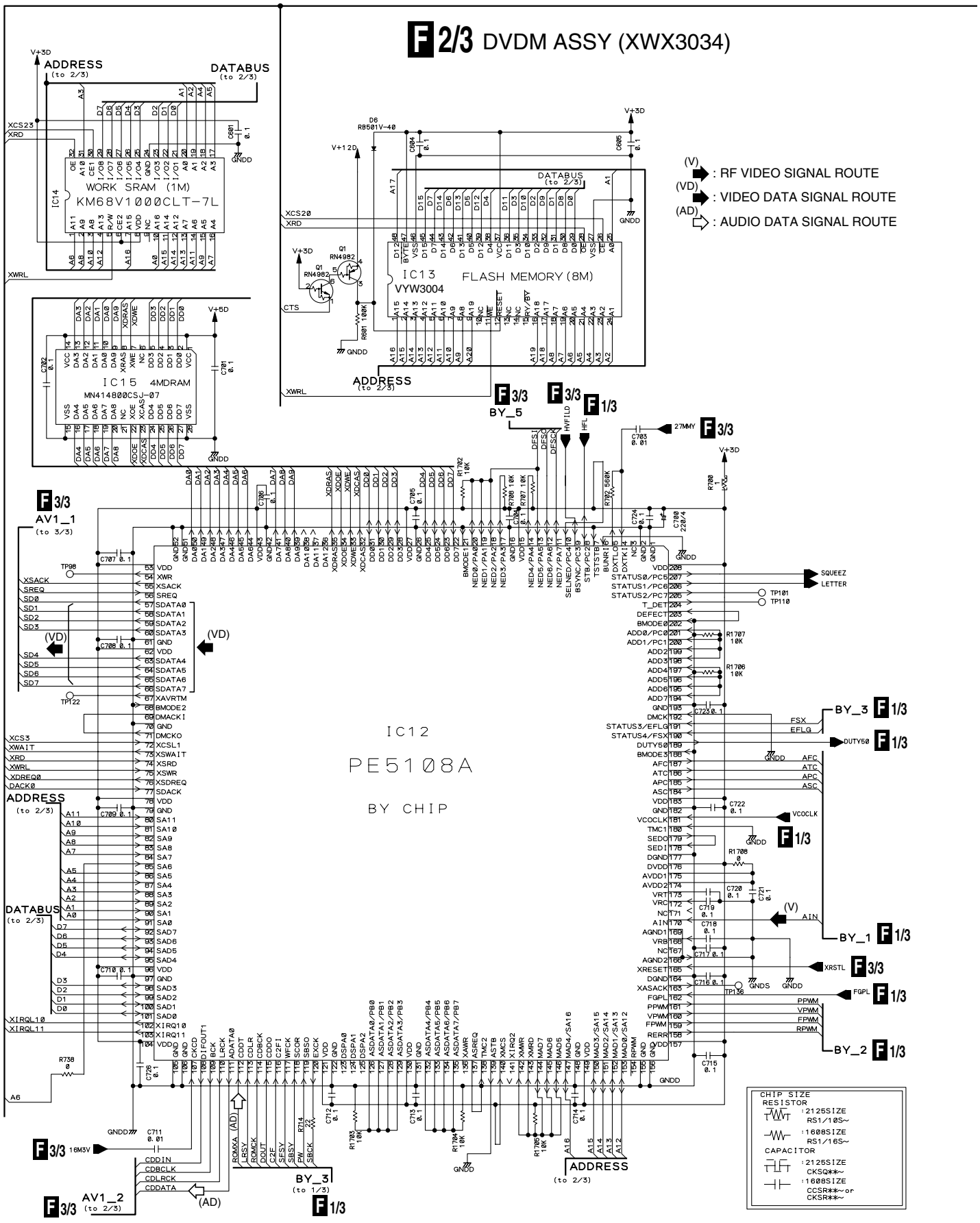


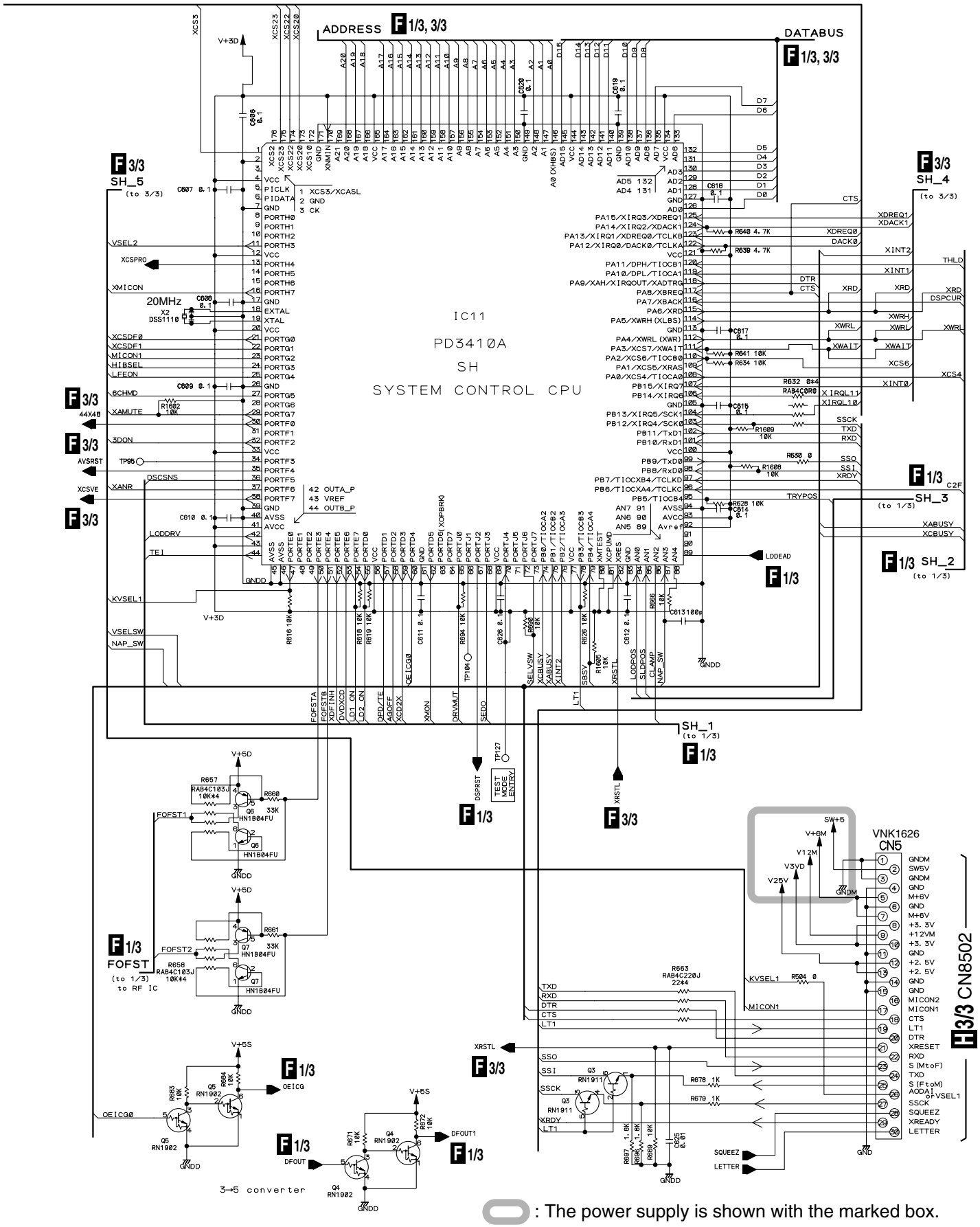
F 1/3 DVDM ASSY (XWX3034)



F 1/3

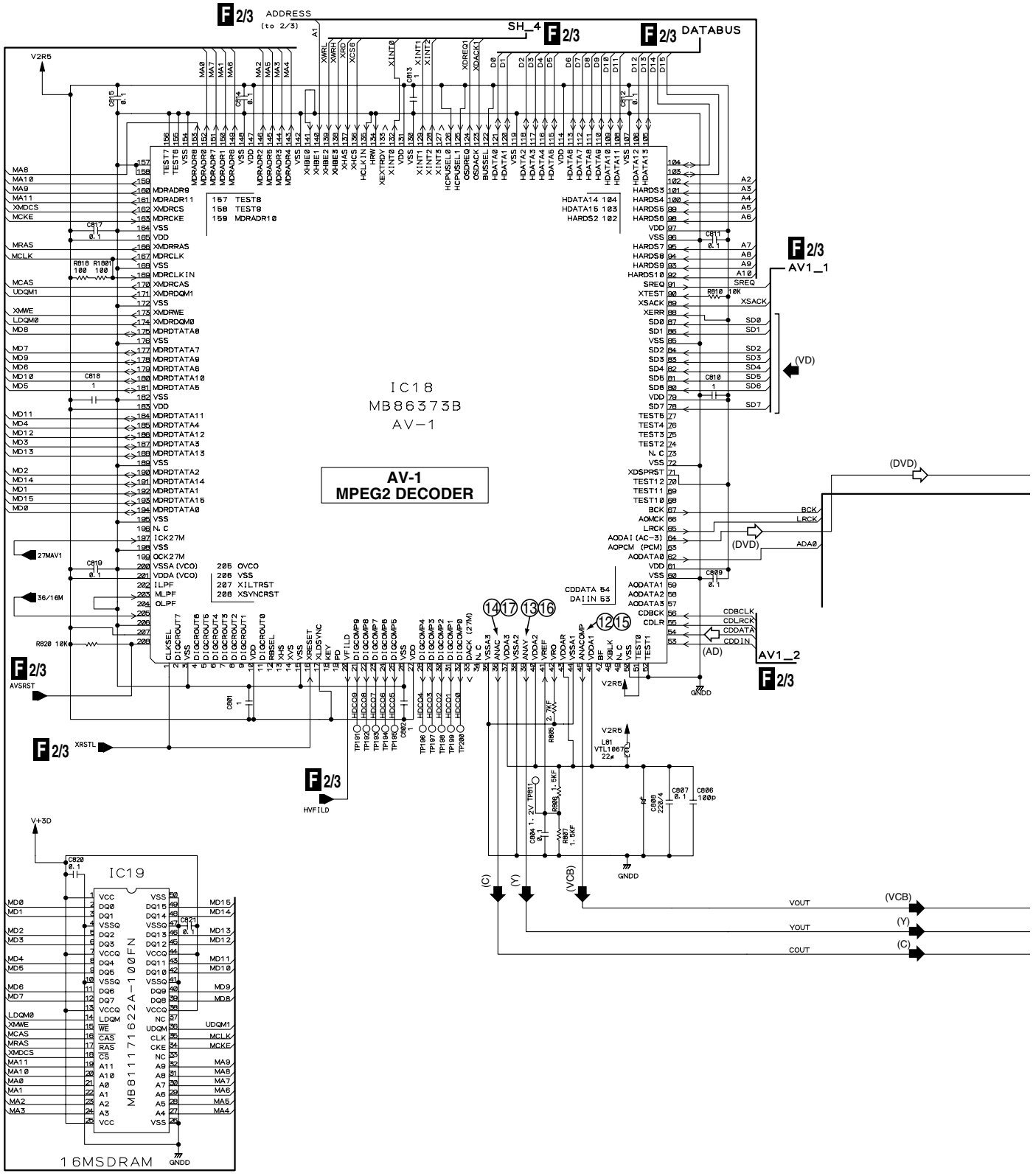
3.5 DVDM ASSY (2/3)

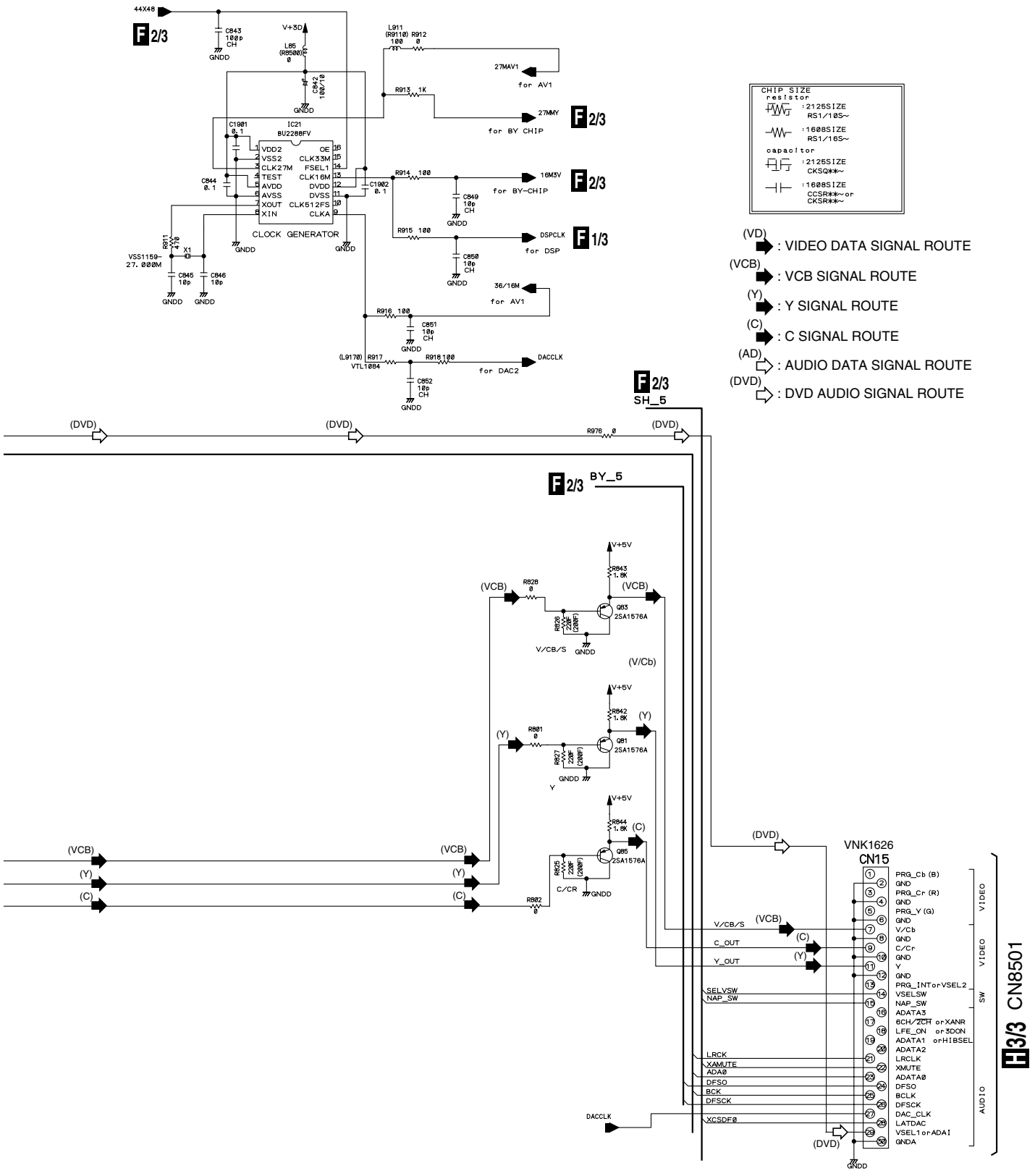



IC11
PD3410A
SH
SYSTEM CONTROL CPU
ADDRESS
DATABUS
SH_5
SH_4
SH_3
SH_2
SH_1
CN8502
VNK1626
CN5
FOFST
3→5 converter
: The power supply is shown with the marked box.

3.6 DVDM ASSY (3/3)

F 3/3 DVDM ASSY (XWX3034)



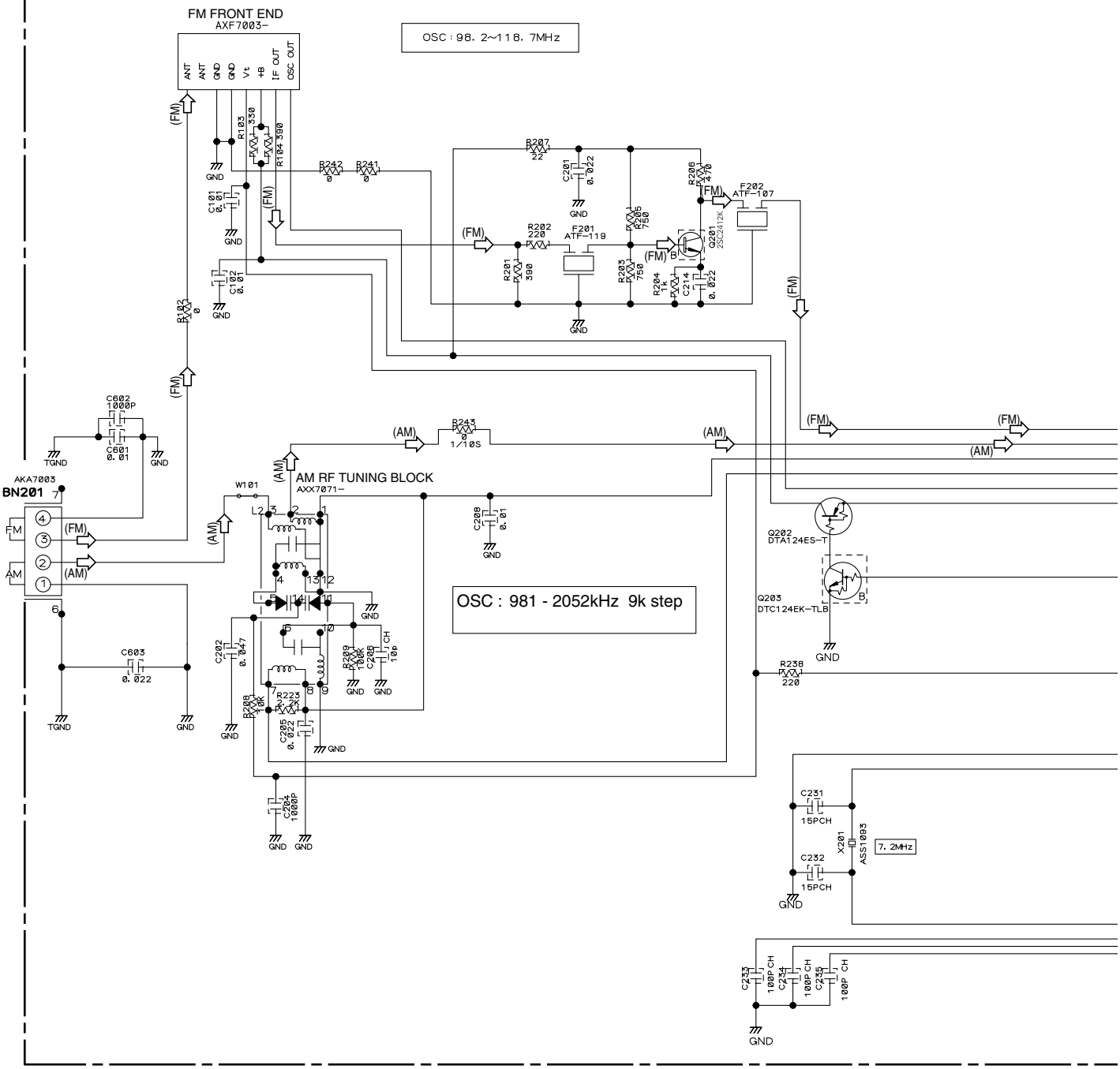

44X48
F 2/3
C843 100p CH
GNDD
V+3D
L85 (R8500) 0
C842 100/16
L911 (R9110) 100
R912 0
27MAV1
for AV1
R913 1K
27MMY
for BY CHIP
F 2/3
C1901 0.1
IC21 BU2288FV
VDD2
VSS2
CLK27M
TEST
AVDD
AVSS
XOUT
XIN
OE
CLK33M
FSEL1
CLK16M
DVDD
DVSS
CLK512FS
CLKA
C844 0.1
C1902 0.1
R914 100
16M3V
for BY-CHIP
F 2/3
C849 10p CH
GNDD
CLOCK GENERATOR
R915 100
DSPCLK
for DSP
F 1/3
C850 10p CH
GNDD
R911 470
X1
VSS1159-27.000M
C845 10p
C846 10p
GNDD
36/16M
for AV1
R916 100
C851 10p CH
GNDD
(L9170) R917 VTL1084
R918 100
DACCLK
for DAC2
C852 10p CH
GNDD
CHIP SIZE
resistor
:2125SIZE RS1/10S~
:1608SIZE RS1/16S~
capacitor
:2125SIZE CKSQ**~
:1608SIZE CCSR**~or CKSR**~
(VD) : VIDEO DATA SIGNAL ROUTE
(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(AD) : AUDIO DATA SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
F 2/3
SH_5
(DVD)
R976 0
F 2/3
BY_5
V+5V
R843 1.8K
(VCB)
R828 0
Q83 2SA1576A
R836 220F (200F)
V/CB/S
GNDD
(V/Cb)
R842 1.8K
(Y)
R801 0
Q81 2SA1576A
R827 220F (200F)
Y
R844 1.8K
(C)
Q85 2SA1576A
R825 220F (200F)
C/CR
R802 0
VNK1626
CN15
PRG_Cb (B)
GND
PRG_Cr (R)
GND
PRG_Y (G)
GND
V/Cb
GND
C/Cr
GND
Y
GND
PRG_INTorVSEL2
VSELSW
NAP_SW
ADATA3
6CH/2CH orXANR
LFE_ON or3DON
ADATA1 orHIBSEL
ADATA2
LRCLK
XMUTE
ADATA0
DFSO
BCLK
DFSCK
DAC_CLK
LATDAC
VSEL1orADA1
GNDA
VIDEO
VIDEO
SW
AUDIO
V/CB/S
C_OUT
Y_OUT
SELVSW
NAP_SW
LRCK
XAMUTE
ADA0
DFSO
BCK
DFSCK
XCSDF0
DACCLK
H 3/3 CN8501
F 3/3

3.7 FM/AM TUNER MODULE

Notes

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS133.

G FM/AM TUNER MODULE (AXQ7228)

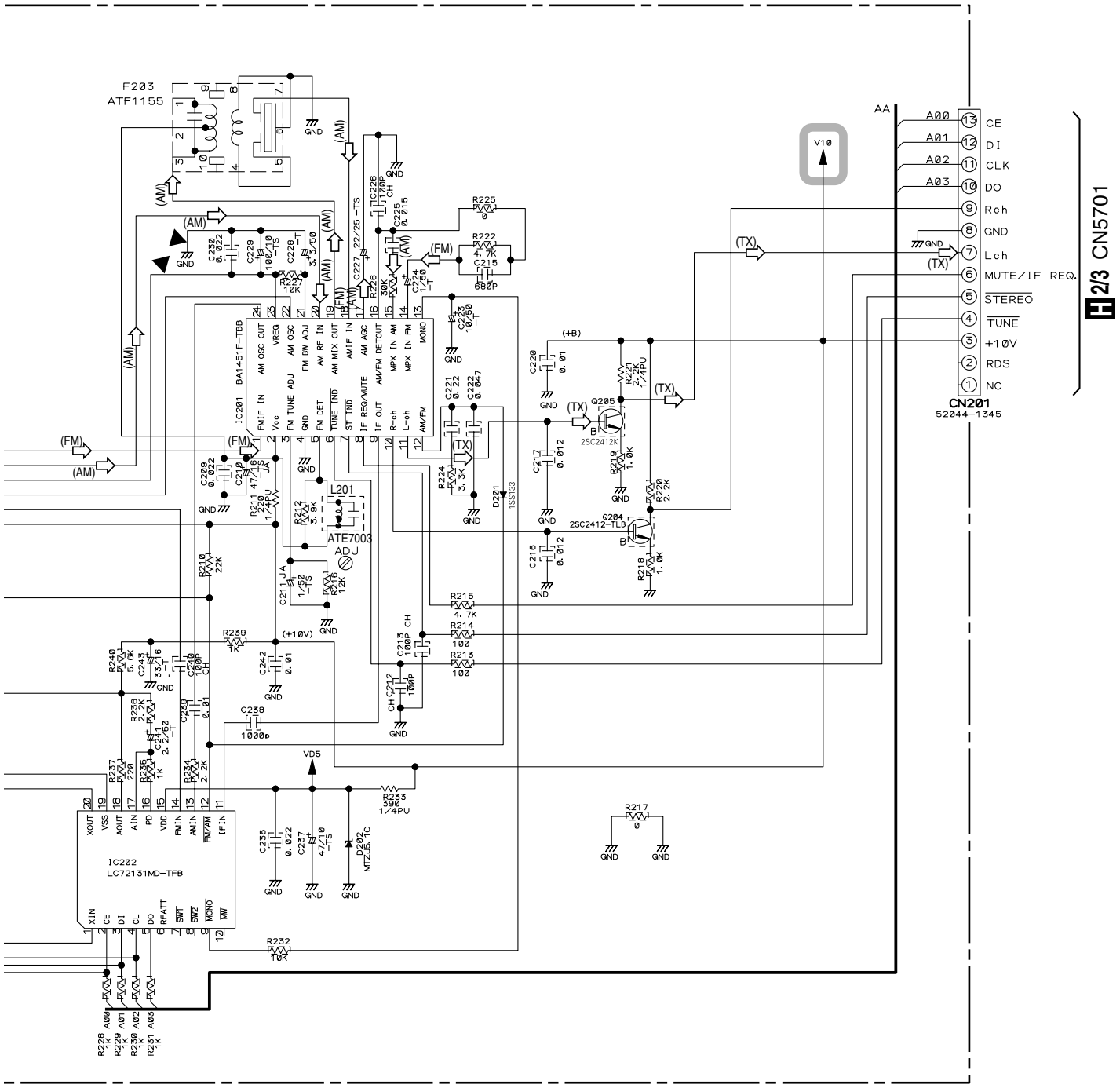


: The power supply is shown with the marked box.

(TX) : TUNER AUDIO SIGNAL ROUTE

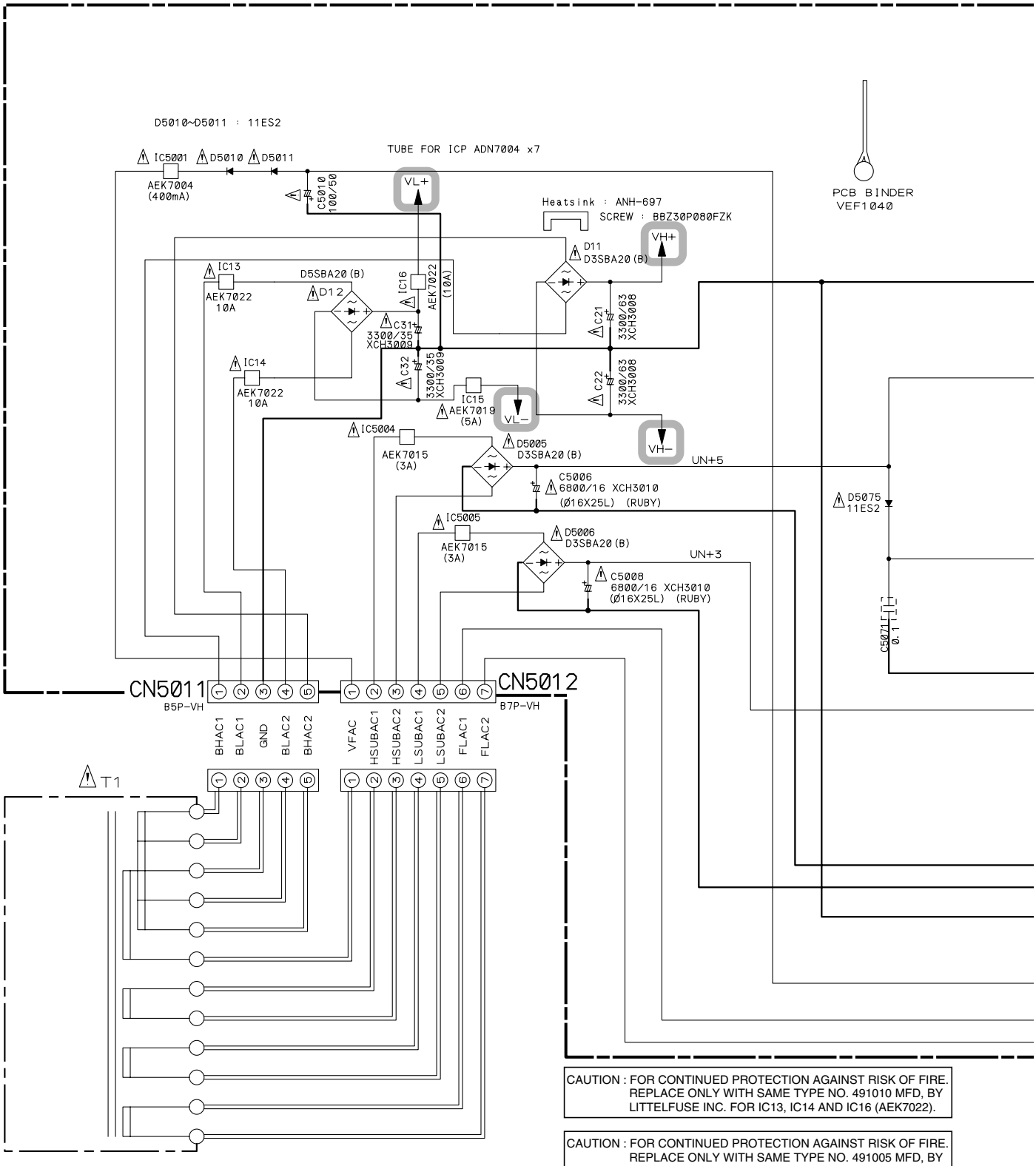
(AM) : AM SIGNAL ROUTE

(FM) : FM SIGNAL ROUTE



3.8 MAIN ASSY (1/3)

H 1/3 MAIN ASSY (XWX3055)



CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 MFD, BY LITTELFUSE INC. FOR IC13, IC14 AND IC16 (AEK7022).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INC. FOR IC15 (AEK7019).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.400 MFD, BY LITTELFUSE INC. FOR IC5001 (AEK7004).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491003 MFD, BY LITTELFUSE INC. FOR IC5004 and IC5005 (AEK7015).

NOTES

ALL CAPACITORS ARE IN µF UNLESS OTHERWISE SPECIFIED

YF : CKSRYF
(OTHER : CKSRYB)

M : CQMA

AL : CEAL
(OTHER : CEAT***M##)

ALL RESISTORS ARE IN Ω

1/16W : RS1/16S***J

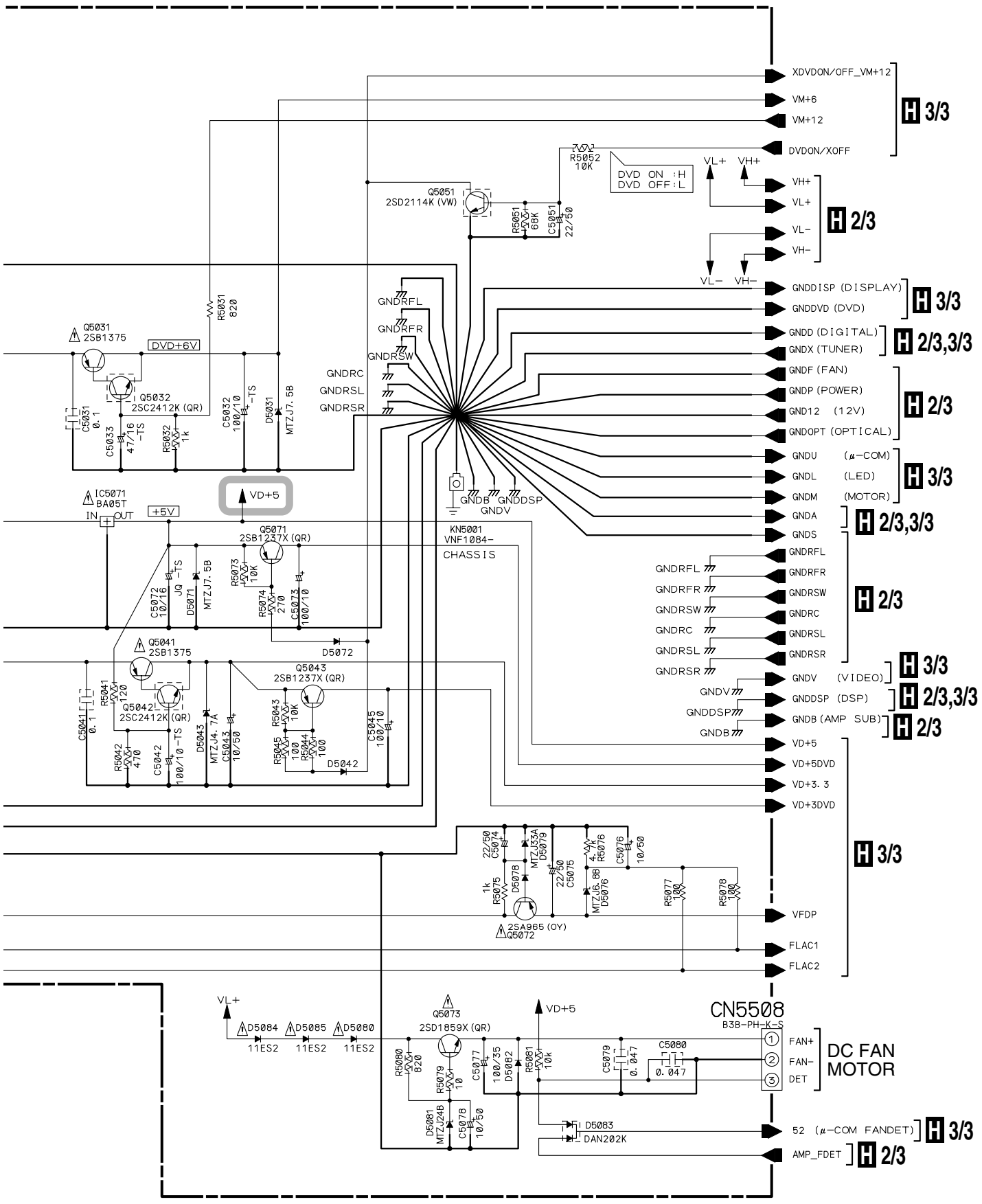
FU : RFA1/4PS
(OTHER : 1/4WPU)

NO MARK DIODE

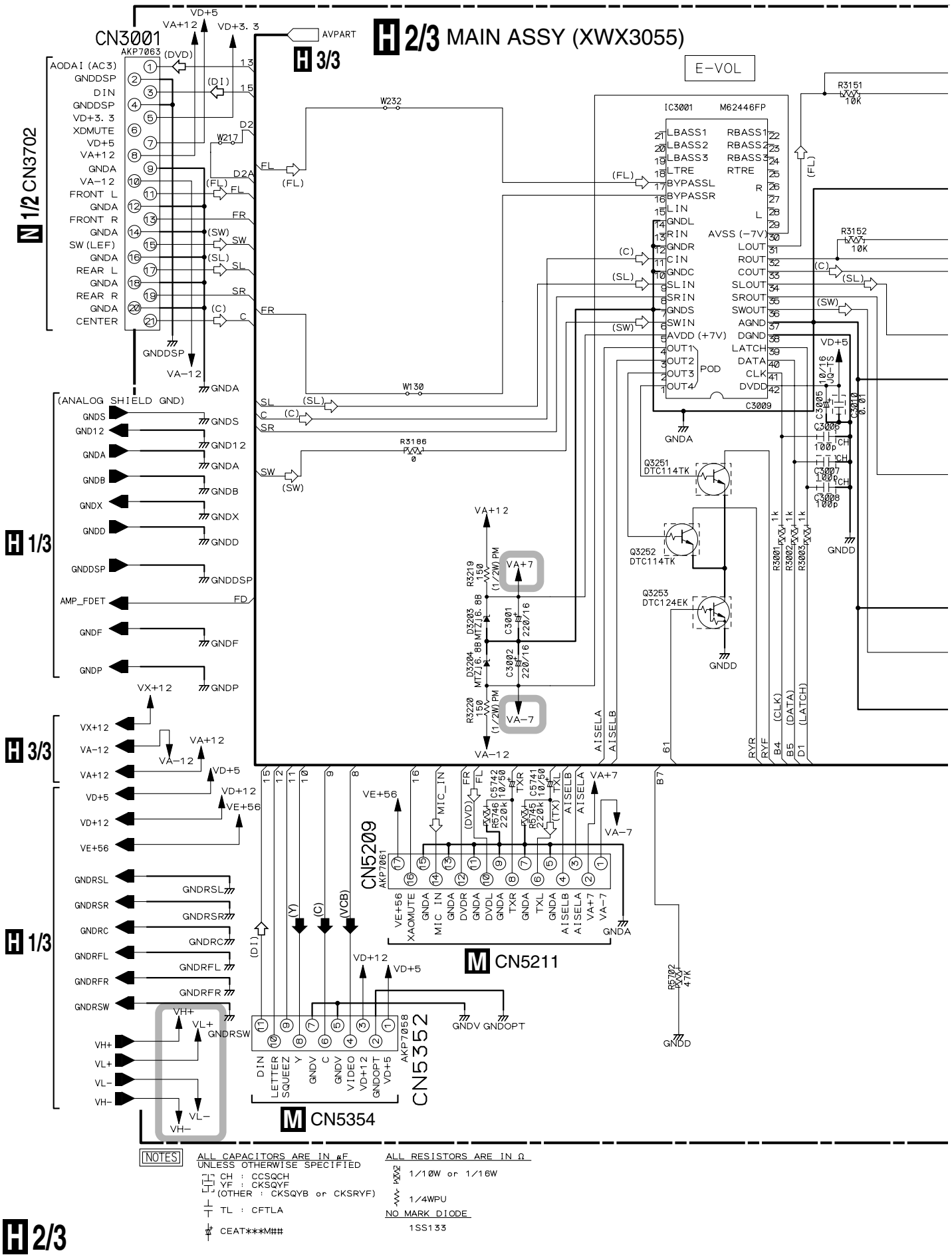
1SS133

1SS355

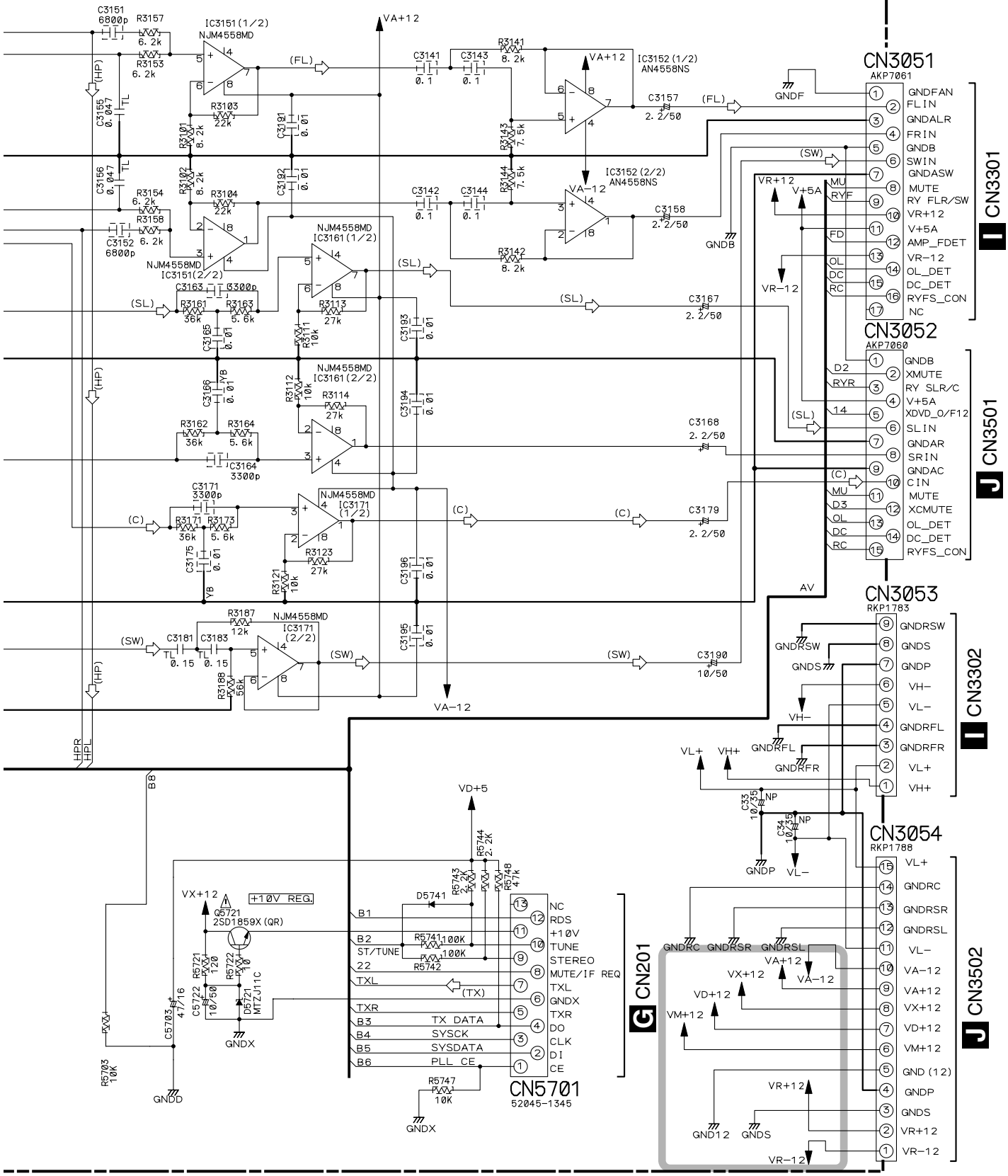
H 1/3


XDVDON/OFF_VM+12
VM+6
VM+12
DVDON/XOFF
H 3/3
R5052 10K
DVD ON :H
DVD OFF :L
Q5051 2SD2114K (VW)
R5051 68K
C5051 22/50
VL+ VH+
VH+
VL+
VL-
VH-
H 2/3
VL- VH-
GNDDISP (DISPLAY)
GNDDVD (DVD)
H 3/3
GNDD (DIGITAL)
GNDX (TUNER)
H 2/3,3/3
GNDF (FAN)
GNDP (POWER)
GND12 (12V)
GNDOPT (OPTICAL)
H 2/3
GNDU (μ-COM)
GNDL (LED)
GNDM (MOTOR)
H 3/3
GNDA
GNDS
H 2/3,3/3
GNDRFL
GNDRFR
GNDRSW
GNDRC
GNDRSL
GNDRSR
H 2/3
GNDV (VIDEO)
GNDDSP (DSP)
GNDB (AMP SUB)
H 3/3
H 2/3,3/3
H 2/3
VD+5
VD+5DVD
VD+3.3
VD+3DVD
H 3/3
VFDP
FLAC1
FLAC2
Q5031 2SB1375
DVD+6V
R5031 820
Q5032 2SC2412K (QR)
C5031 0.1
C5033 47/16 -TS
R5032 1k
C5032 100/10 -TS
D5031 MTZJ7.5B
GNDRFL
GNDRFR
GNDRSW
GNDRC
GNDRSL
GNDRSR
GNDB GNDDSP
GNDV
IC5071 BA05T
IN OUT
+5V
VD+5
Q5071 2SB1237X (QR)
KN5001 VNF1084-
CHASSIS
C5072 10/16
JQ -TS
D5071 MTZJ7.5B
R5073 10K
R5074 270
C5073 100/10
D5072
Q5041 2SB1375
Q5042 2SC2412K (QR)
R5041 120
C5041 0.1
R5042 470
C5042 100/10 -TS
D5043 MTZJ4.7A
C5043 10/50
Q5043 2SB1237X (QR)
R5043 10K
R5044 100
R5045 100
C5045 100/10
D5042
22/50 C5074
MTZJ33A D5079
4.7k R5076
C5076 10/50
1k R5075
D5078
22/50 C5075
MTZJ6.8B D5076
R5077 100
R5078 100
2SA965 (OY) Q5072
VL+
D5084 D5085 D5080
11ES2 11ES2 11ES2
Q5073 2SD1859X (QR)
VD+5
R5080 820
R5079 10
C5077 100/35
D5082
R5081 10k
C5079 0.047
C5080 0.047
D5081 MTZJ24B
C5078 10/50
CN5508
B3B-PH-K-S
1 FAN+
2 FAN-
3 DET
DC FAN MOTOR
D5083
DAN202K
52 (μ-COM FANDET)
H 3/3
AMP_FDET
H 2/3
: The power supply is shown with the marked box.
H 1/3

3.9 MAIN ASSY (2/3)



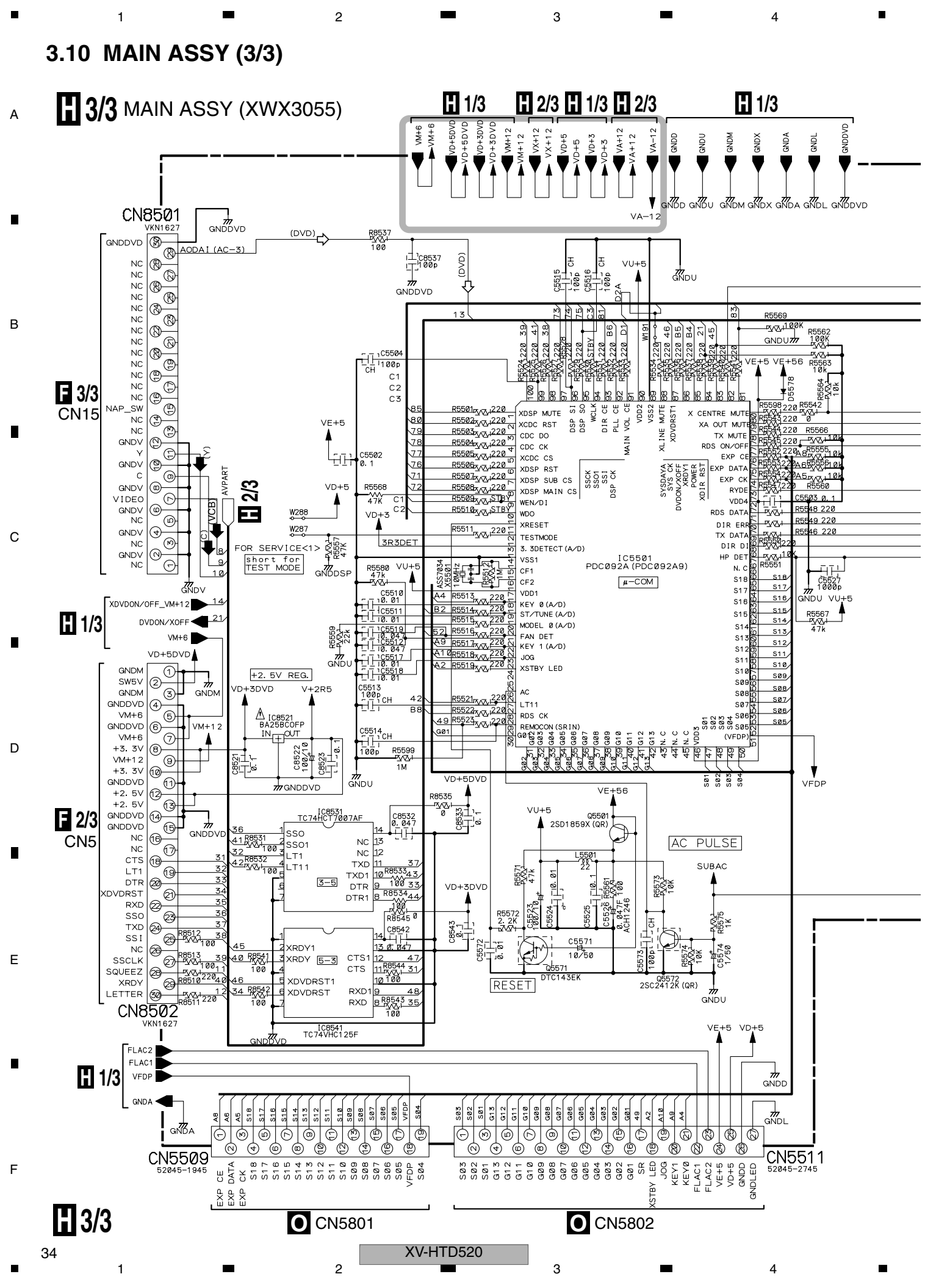
: The power supply is shown with the marked box.



(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(HP) : HP AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
(TX) : TX AUDIO SIGNAL ROUTE

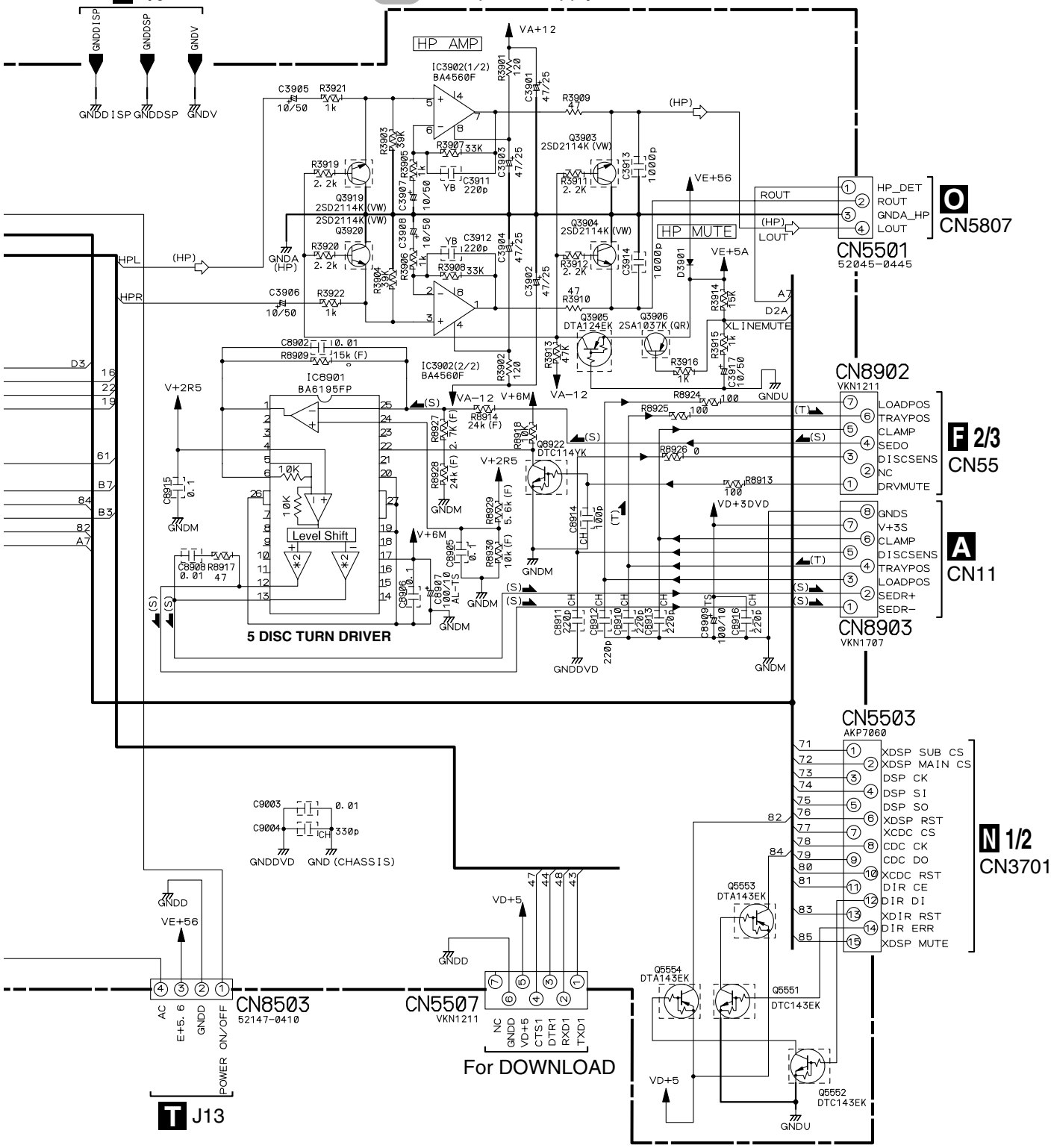
H 2/3

3.10 MAIN ASSY (3/3)



H 1/3

: The power supply is shown with the marked box.



(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(HP) : HP AUDIO SIGNAL ROUTE
(T) : TRAY POSITION SERVO LOOP LINE
(S) : SEDO SERVO LOOP LINE

NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
SL : CCSRSL
(OTHER : CKSRYB)

AL : CEAL
(OTHER : CEAT***M###)

ALL RESISTORS ARE IN Ω
1/16W 1/4WPU (F) 1%

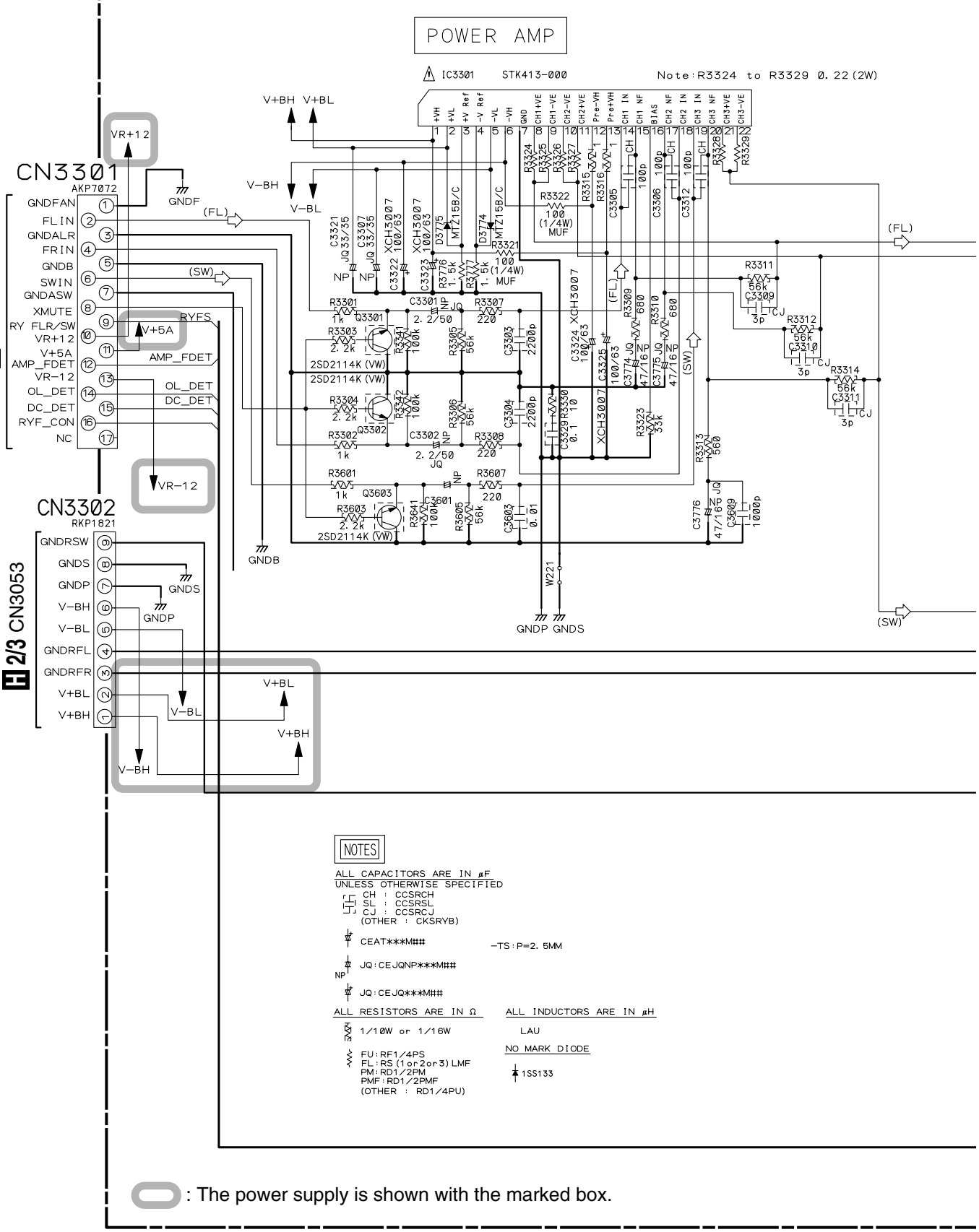
ALL INDUCTORS ARE IN μH
LAU

NO MARK DIODE
1SS355 1SS133

H 3/3

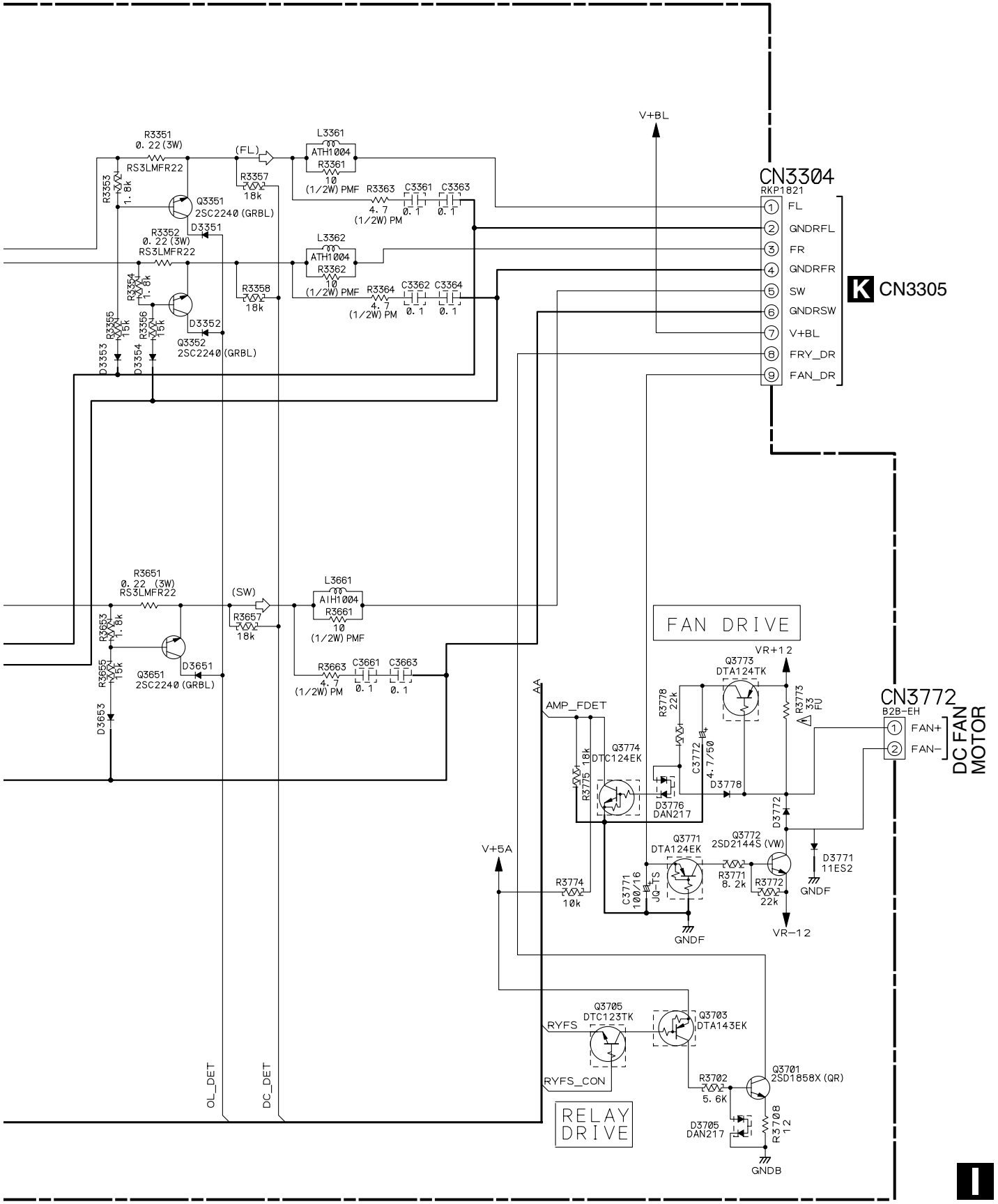
3.11 F. AMP ASSY

F.AMP ASSY (XWZ3595)

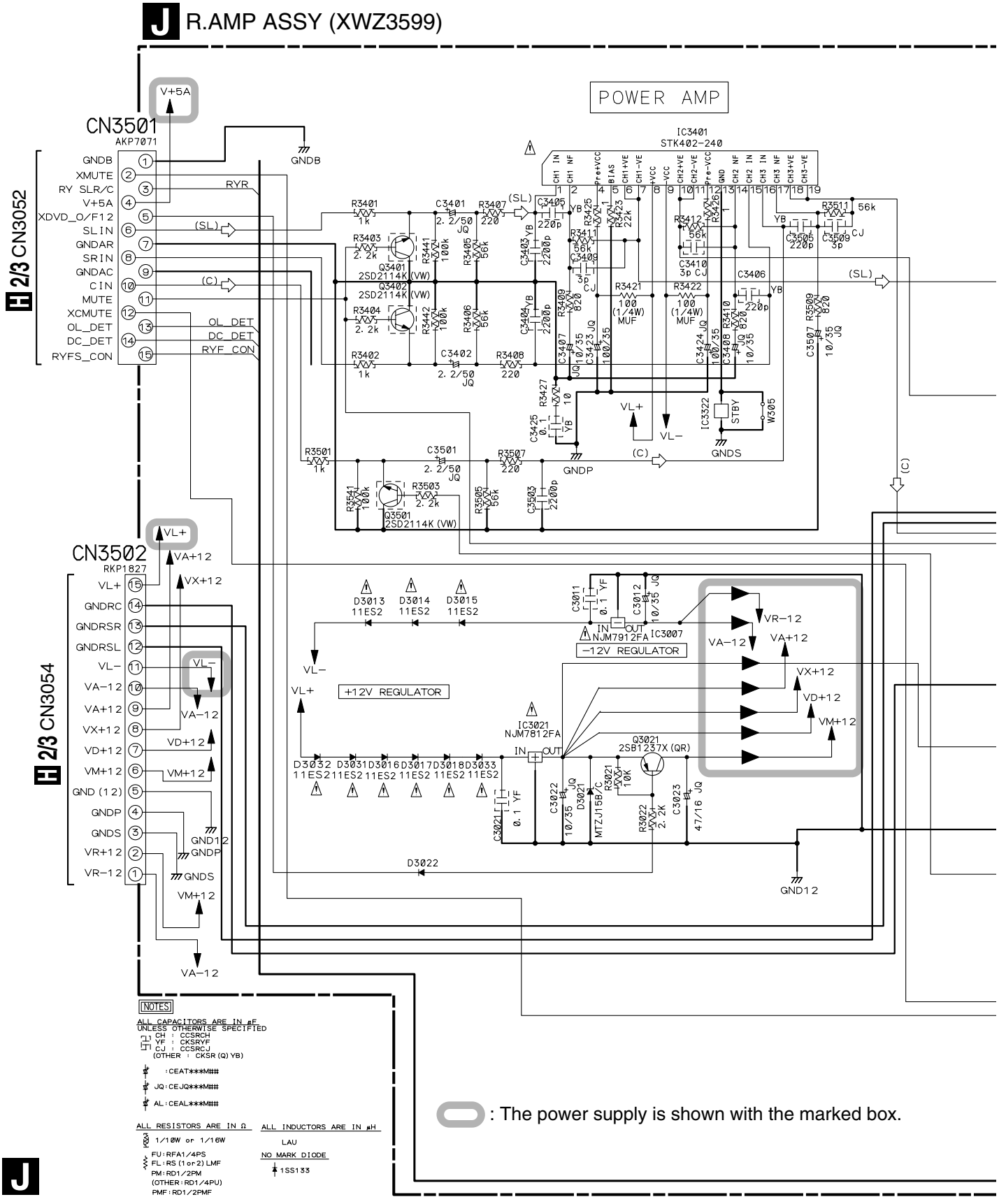


: The power supply is shown with the marked box.

(FL) : FL AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE



3.12 R. AMP and SPEAKER ASSYS



(FL) : FL AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE

K SPEAKER ASSY (XWZ3603)

I

PCB VINDER DEF1012

CN3305 RKP1783
CN3303 XKE3016
CN3304
CN3404
CN3405
CN3401 AKE7079

SPEAKERS
SURROUND SPEAKERS

RY3361 XSR3002
RY3362 XSR3002
RY3461 XSR3002

OVERLOAD DETECT

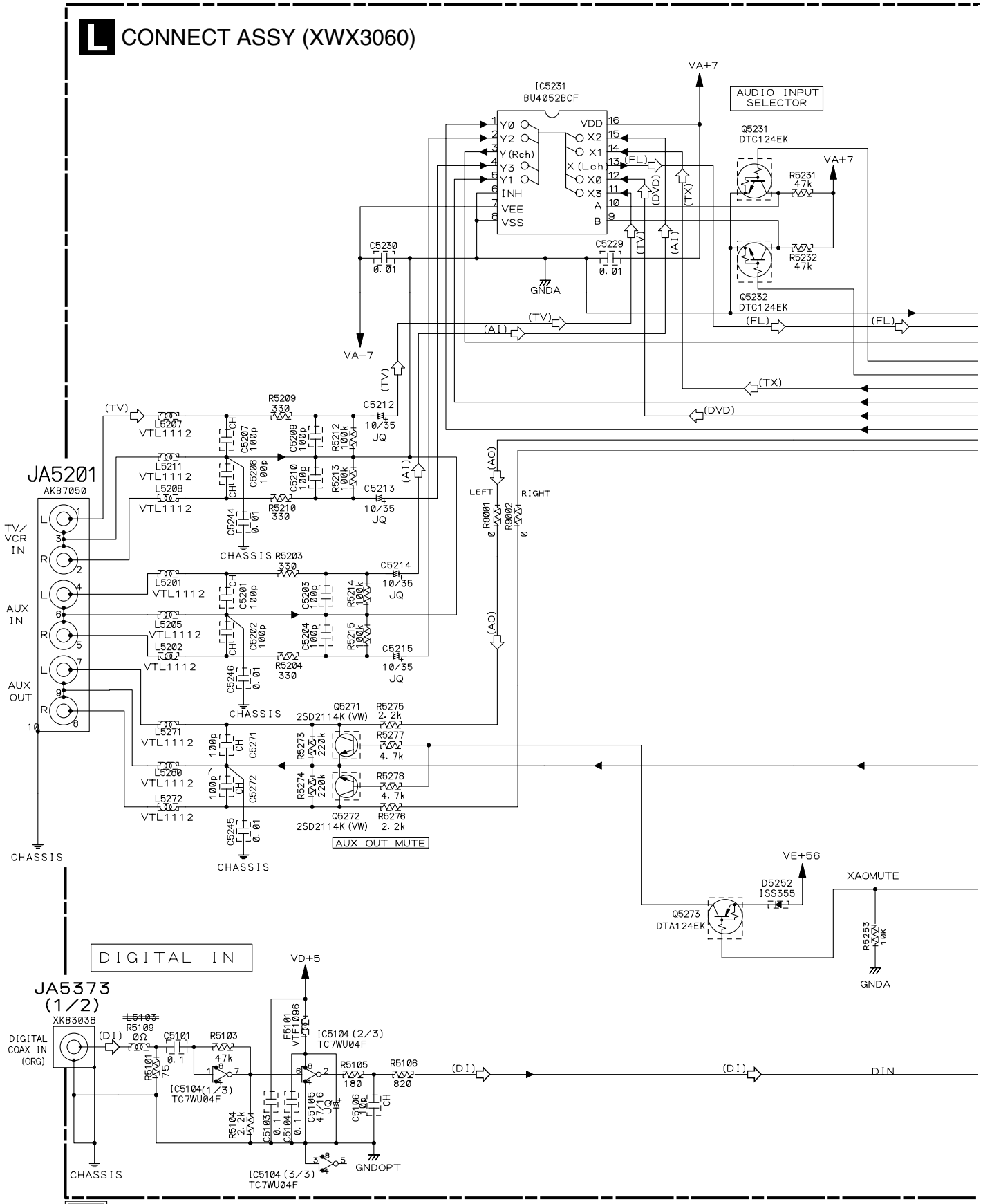
DC DETECT

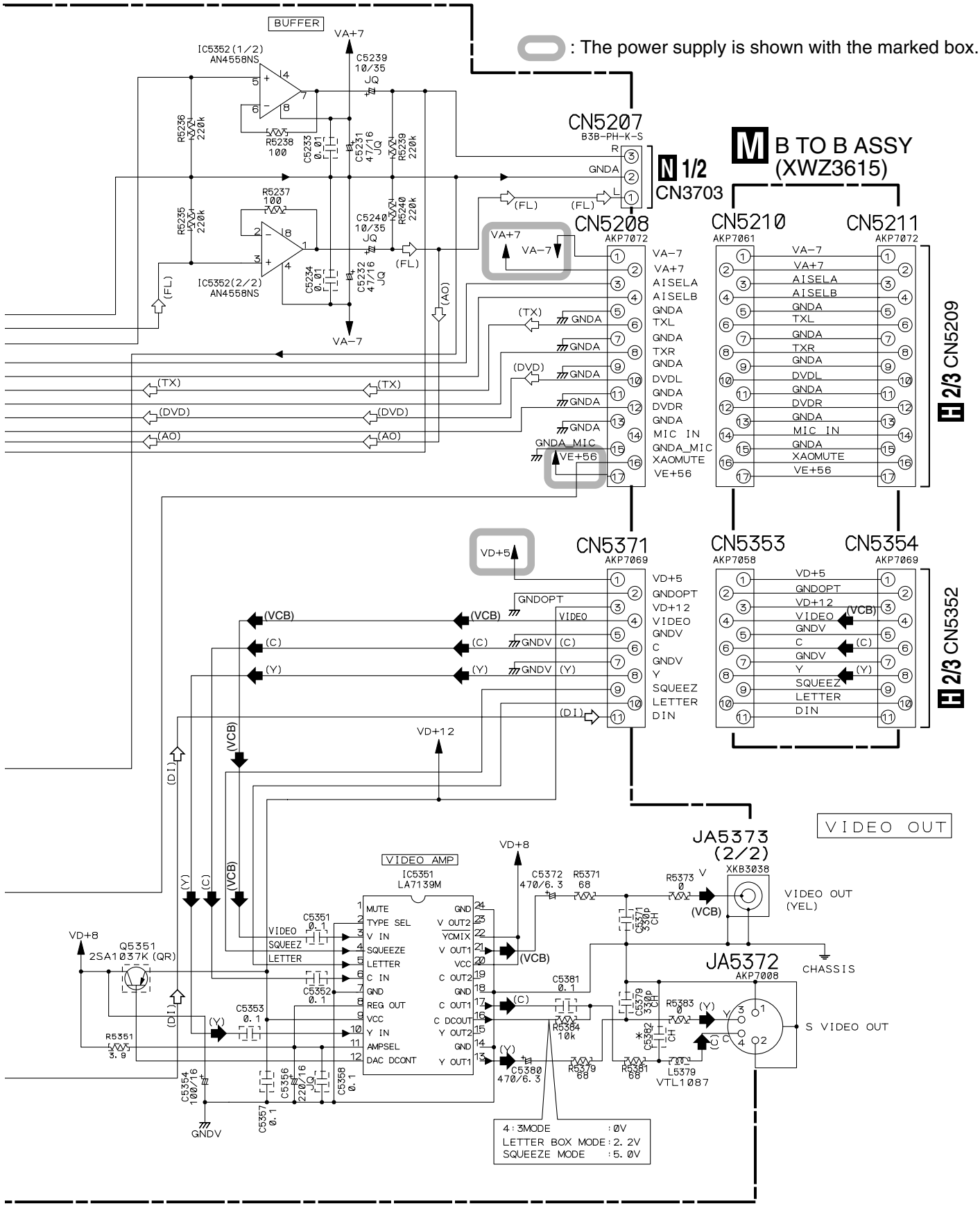
RELAY DRIVE

V+5A
VA-12
VL+
XCMUTE
XMUTE
RYR
RYFS_CON
OL_DET
DC_DET
GNDB
GND (CHASSIS)

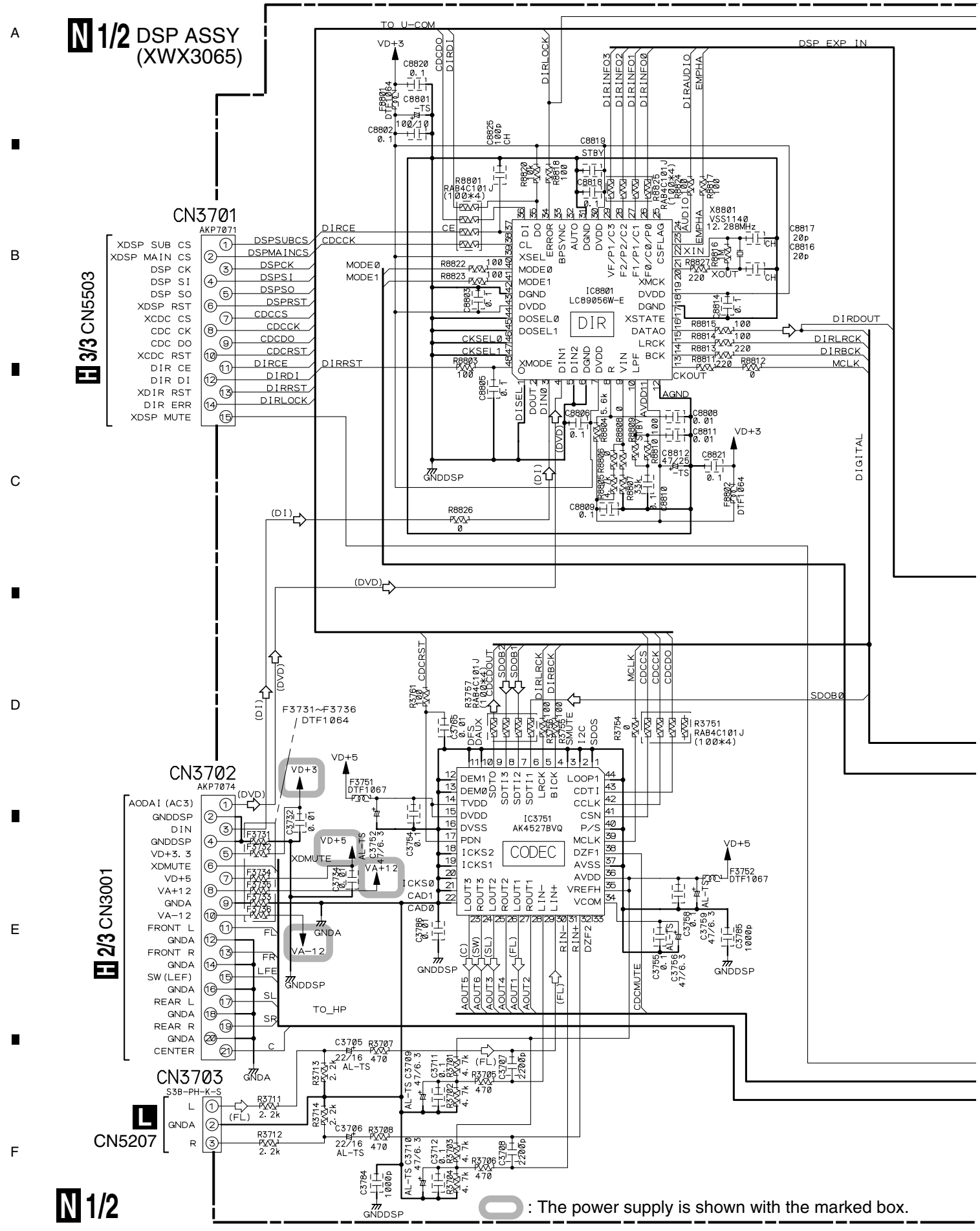
J K

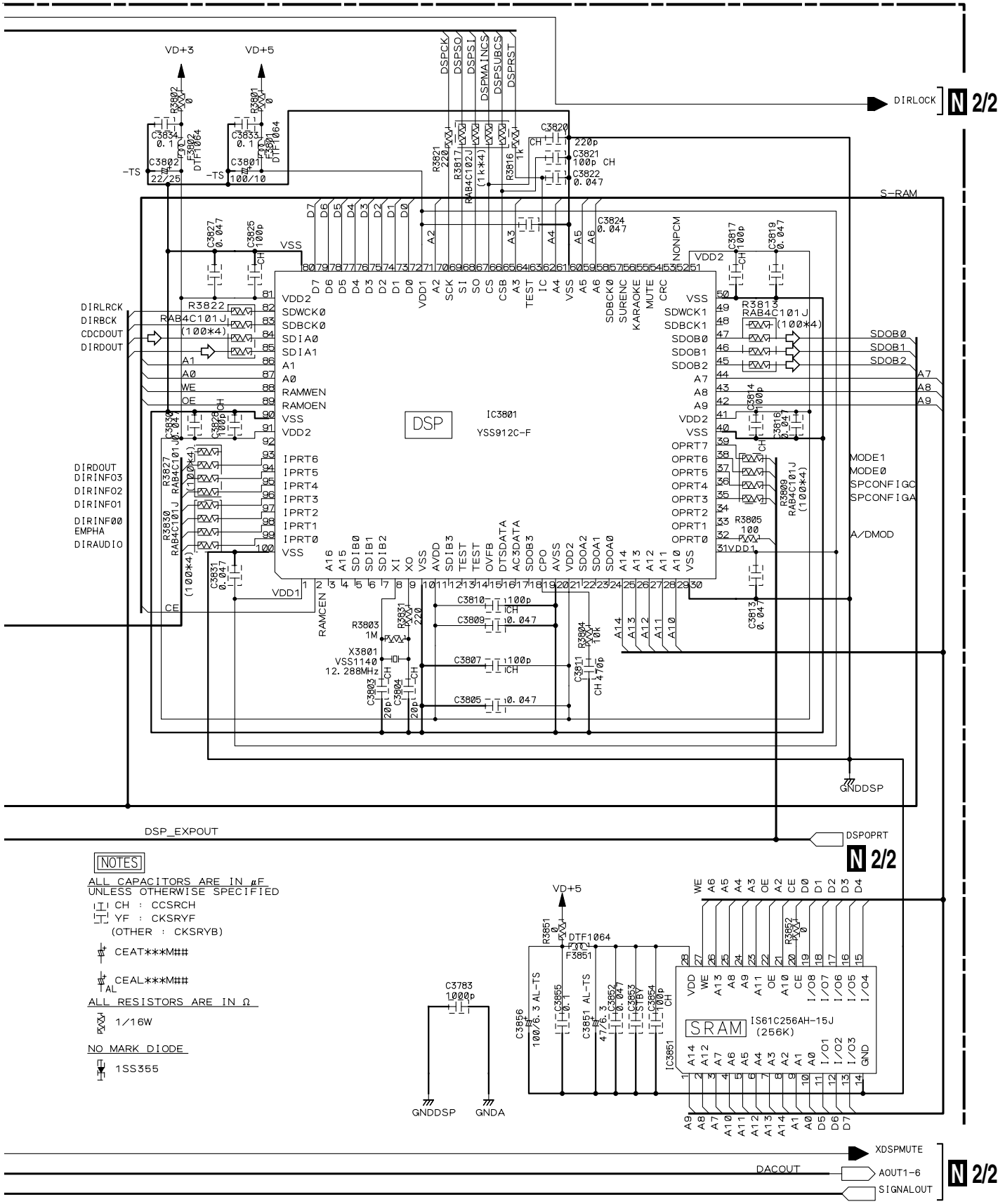
3.13 CONNECT and B TO B ASSY



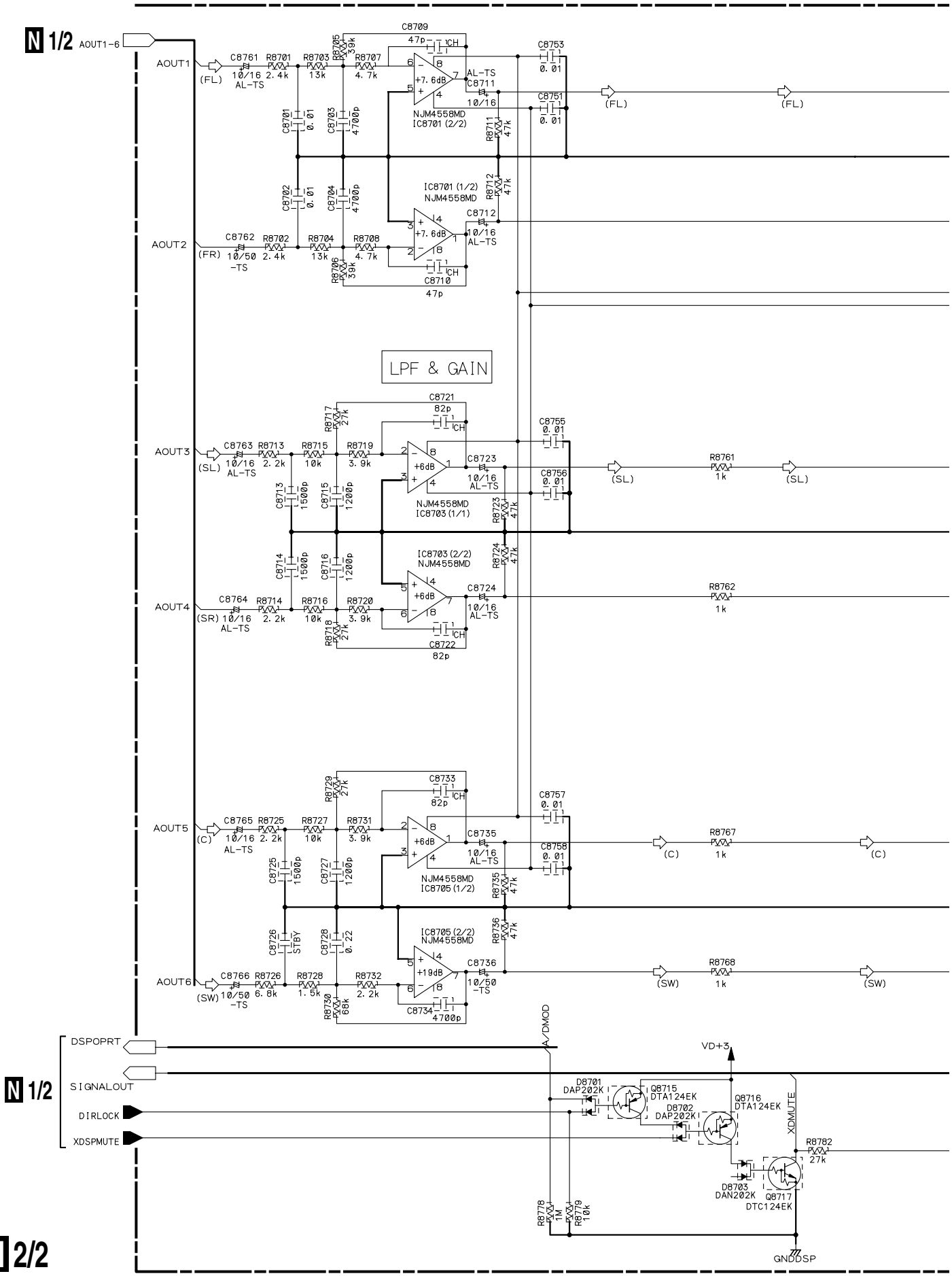

: The power supply is shown with the marked box.
BUFFER
IC5352(1/2)
AN4558NS
IC5352(2/2)
AN4558NS
CN5207
B3B-PH-K-S
N 1/2
CN3703
M B TO B ASSY
(XWZ3615)
CN5208
AKP7072
CN5210
AKP7061
CN5211
AKP7072
H 2/3 CN5209
CN5371
AKP7069
CN5353
AKP7058
CN5354
AKP7069
H 2/3 CN5352
VA+7
VA-7
VD+5
VD+12
VD+8
VE+56
GNDA
GNDV
GNDOPT
VIDEO AMP
IC5351
LA7139M
VIDEO OUT
JA5373
(2/2)
JA5372
AKP7008
XKB3038
VIDEO OUT
(YEL)
CHASSIS
S VIDEO OUT
Q5351
2SA1037K (QR)
VTL1087
4:3MODE :0V
LETTER BOX MODE :2.2V
SQUEEZE MODE :5.0V
(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(AI) : AUX IN AUDIO SIGNAL ROUTE
(AO) : AUX OUT AUDIO SIGNAL ROUTE
(TV) : TV AUDIO SIGNAL ROUTE
(TX) : TX AUDIO SIGNAL ROUTE

3.14 DSP ASSY (1/2)

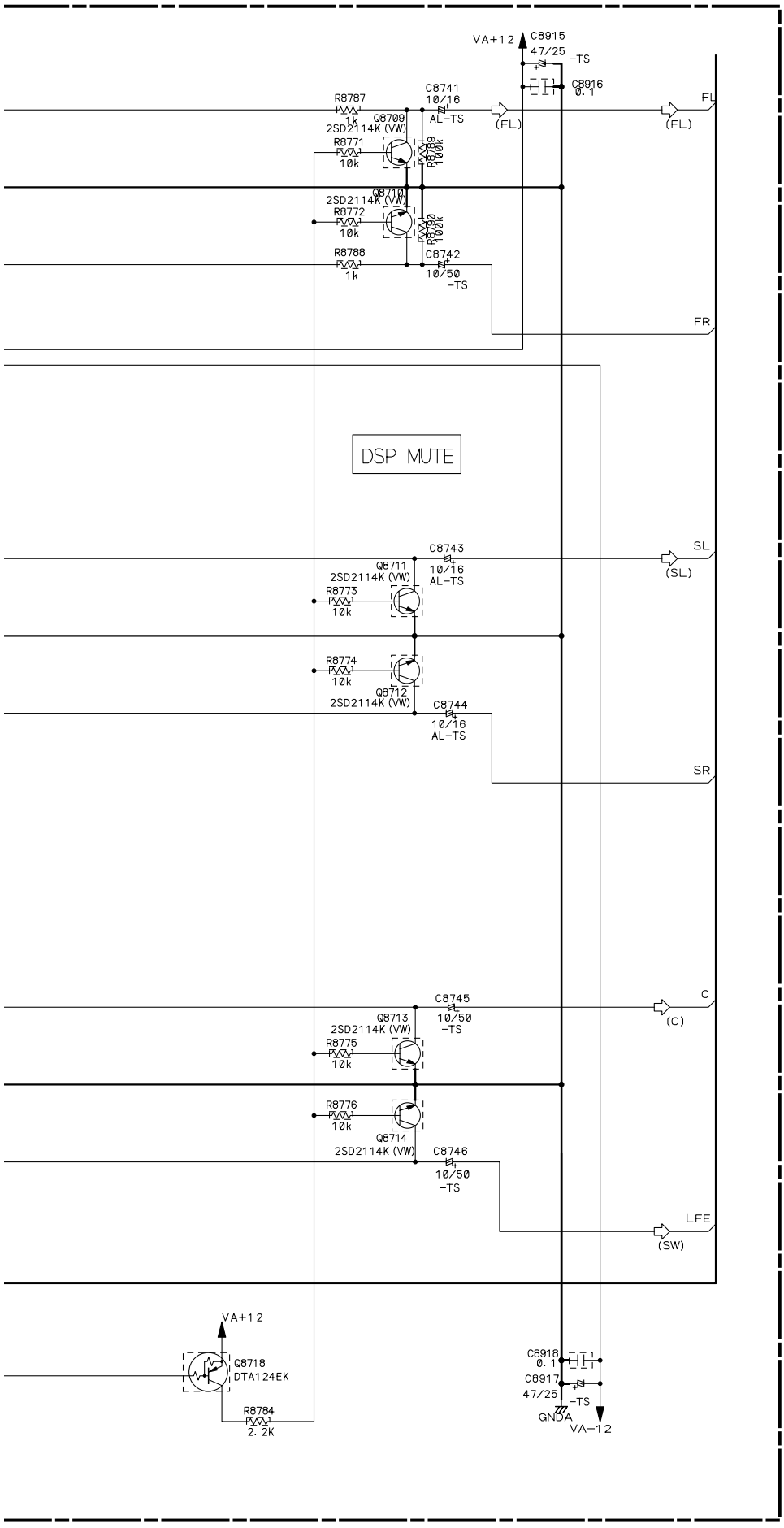



DIRLOCK
N 2/2
S-RAM
DSP
IC3801
YSS912C-F
DSP_EXPOUT
DSPOPRT
N 2/2
GNDDSP
SRAM
IS61C256AH-15J
(256K)
XDSPMUTE
DACOUT
AOUT1-6
SIGNALOUT
N 2/2
NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)
CEAT***M##
CEAL***M##
ALL RESISTORS ARE IN Ω
1/16W
NO MARK DIODE
1SS355
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
: AUDIO SIGNAL ROUTE
N 1/2

3.15 DSP ASSY (2/2)



N 2/2 DSP ASSY (XWX3065)



(FL) : FL AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE

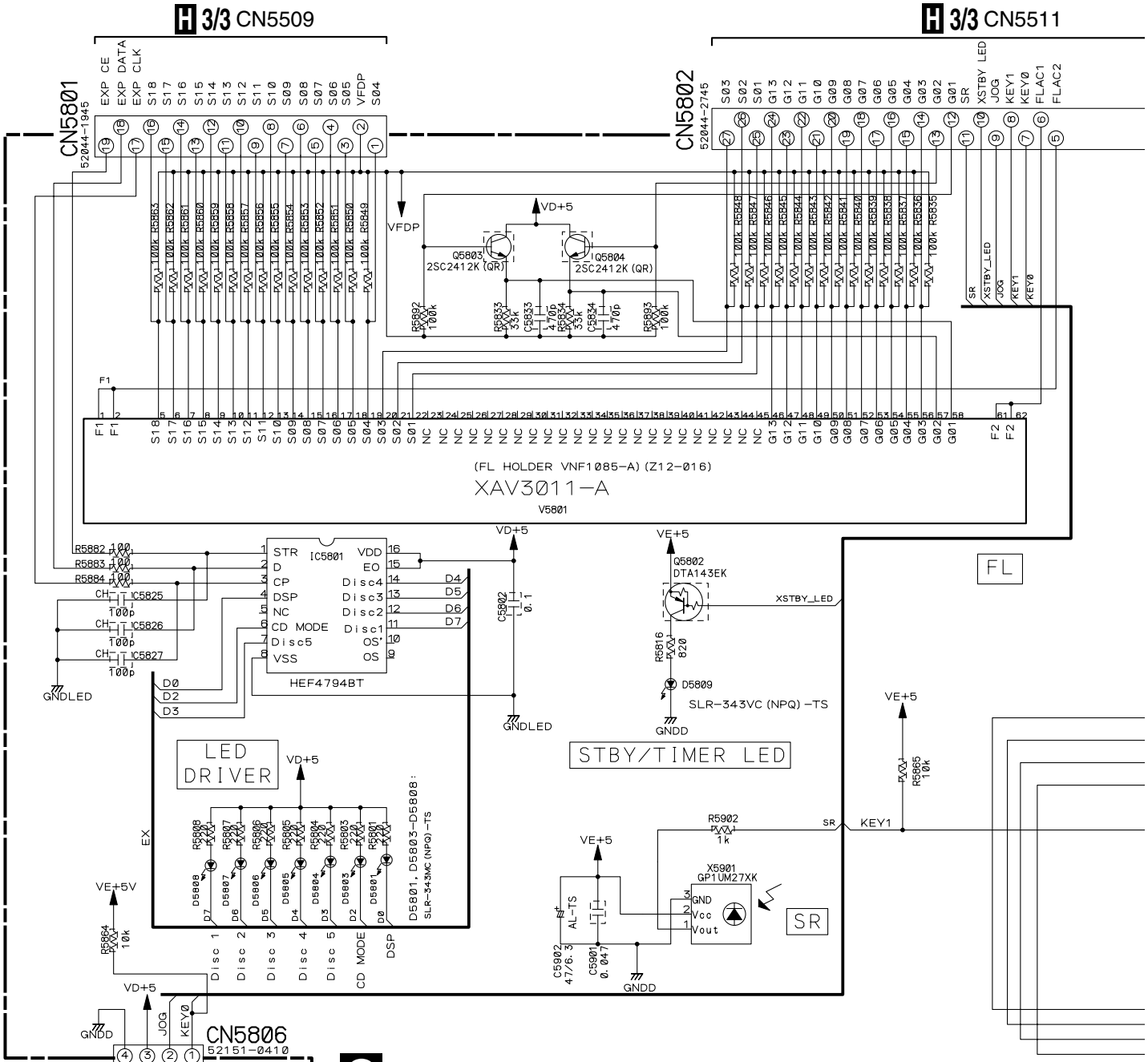
NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)
AL : CEAL
JA : CEJA
(OTHER : CEAT***M##)

ALL RESISTORS ARE IN Ω
1/16W

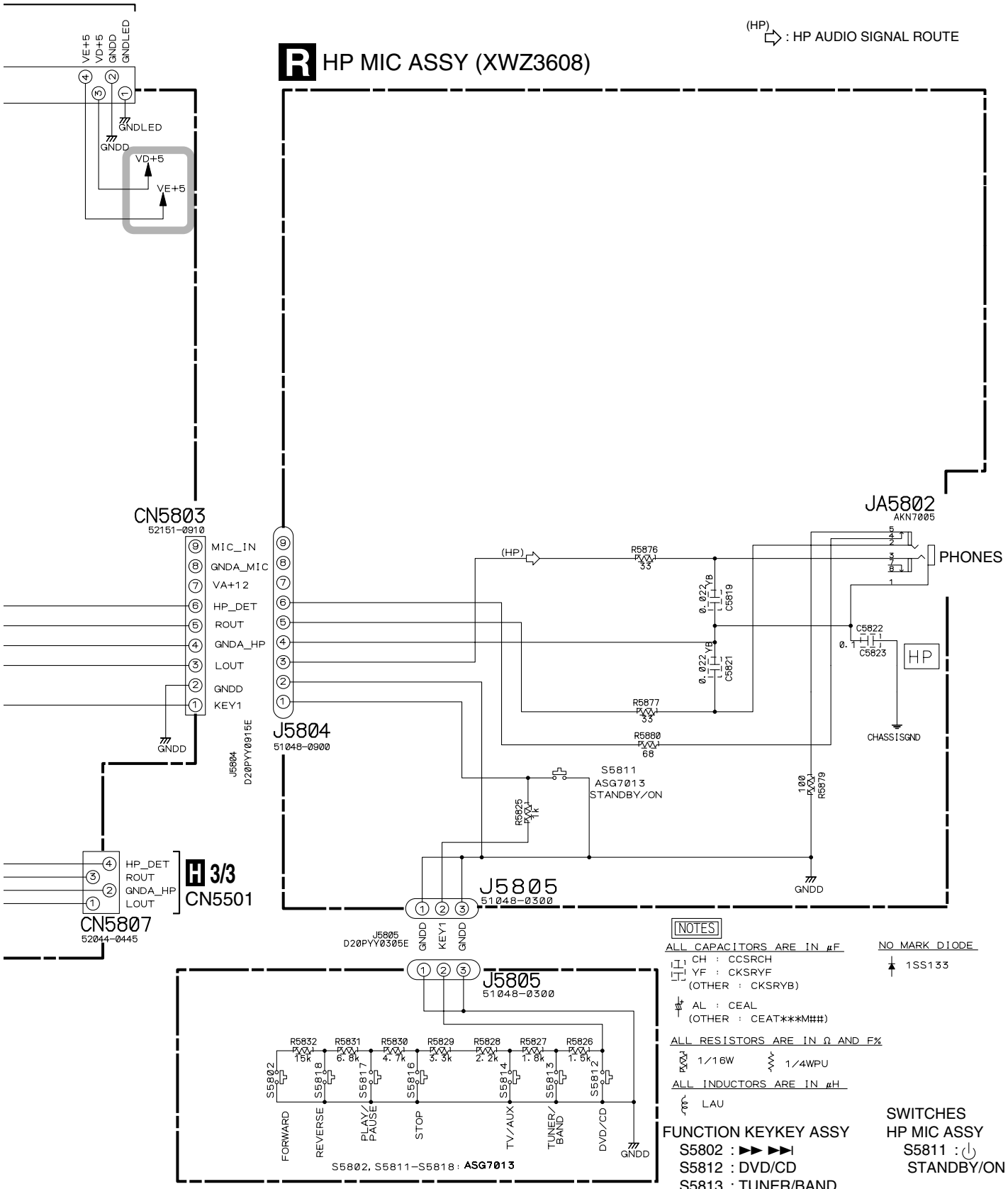
N 2/2

3.16 DISPLAY, JOG, DISC KEY, HP MIC and FUNCTION KEY ASSYS



(HP) ⇨ : HP AUDIO SIGNAL ROUTE

R HP MIC ASSY (XWZ3608)



S FUNCTION KEY ASSY (XWZ3612)

NOTES

ALL CAPACITORS ARE IN μF
CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)
AL : CEAL
(OTHER : CEAT***M##)

ALL RESISTORS ARE IN Ω AND F%
1/16W
1/4WPU

ALL INDUCTORS ARE IN μH
LAU

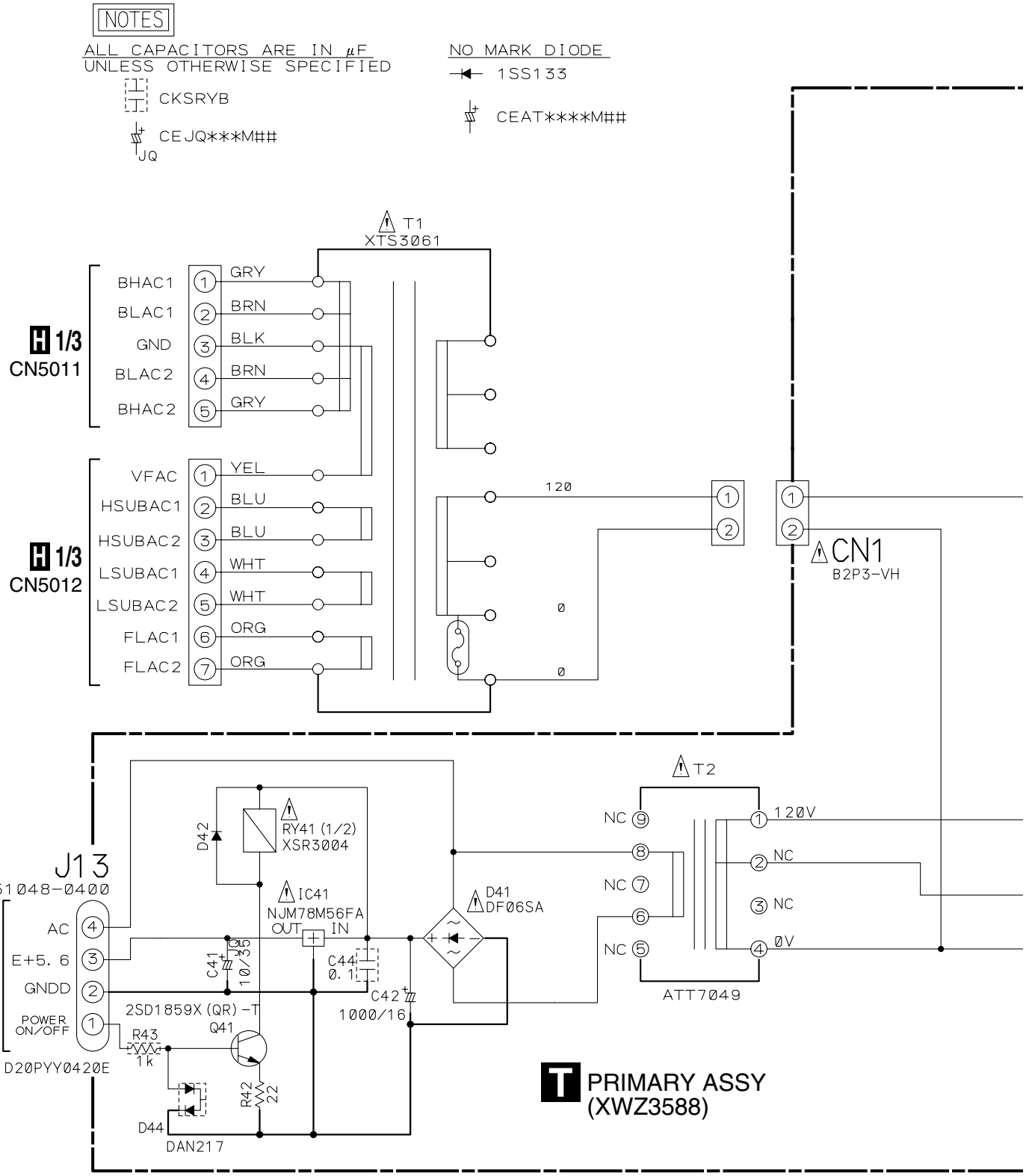
NO MARK DIODE
1SS133

FUNCTION KEYKEY ASSY
S5802 : ►► ►►I
S5812 : DVD/CD
S5813 : TUNER/BAND
S5814 : TV/AUX
S5816 : ■ (STOP)
S5817 : ►/II (PLAY/PAUSE)
S5818 : I◄◄ ◄◄

SWITCHES
HP MIC ASSY
S5811 : ⏻ STANDBY/ON

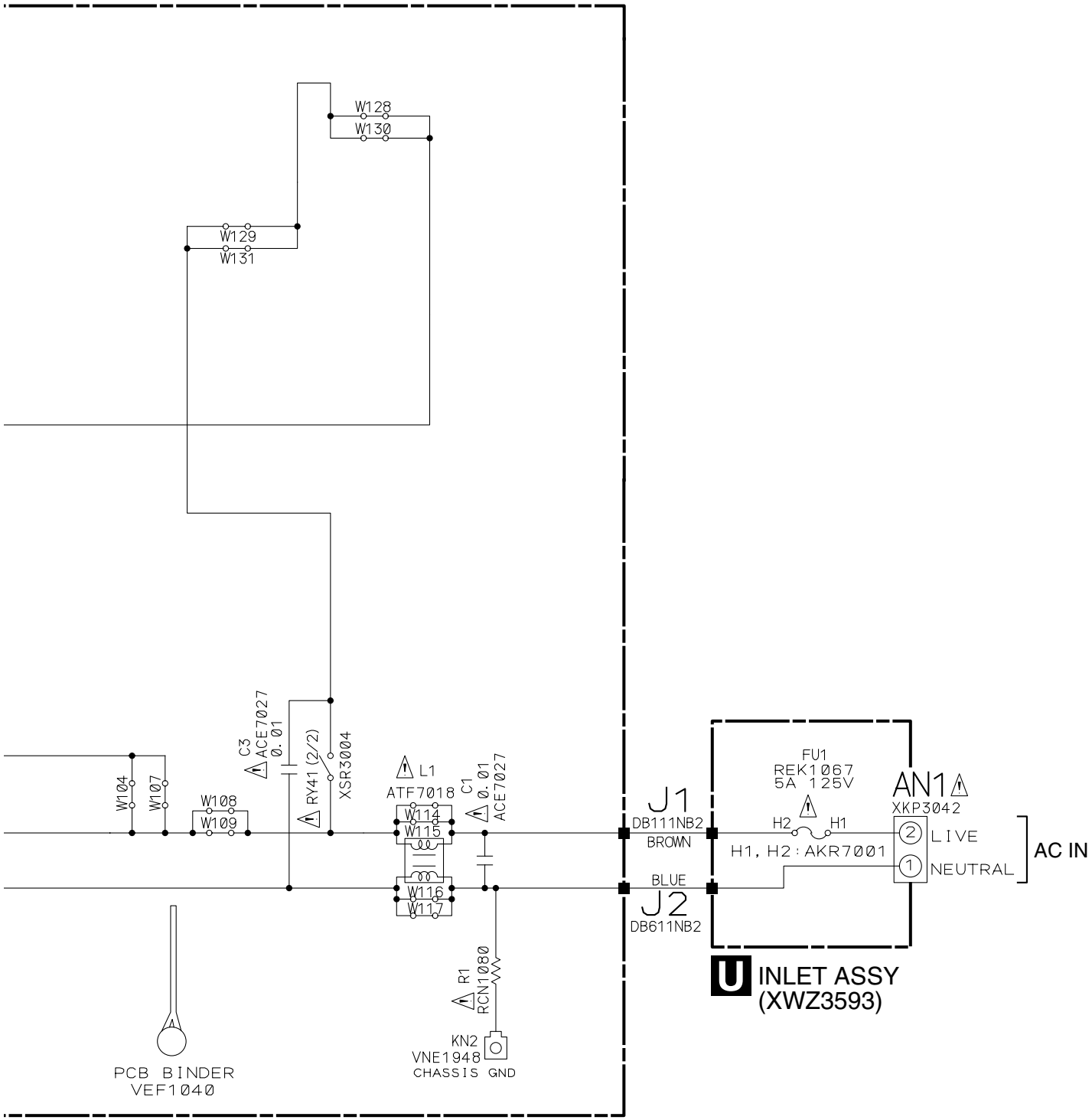
: The power supply is shown with the marked box.

3.17 PRIMARY and INLET ASSYS



• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.



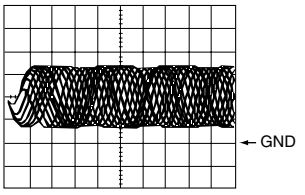
T U

F DVDM ASSY

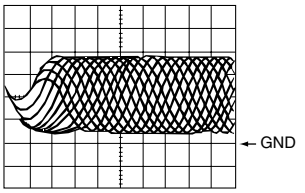
Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 4 and 6 to 11 : MJK1, Title 1-chp 1
No. 5 : CD, ABEX-784 Track 1
No. 12 to 14 : MJK1, Title 1-chp 4
No. 15 to 17 : MJK1, Title 1-chp 5

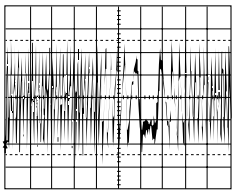
1 **Foot of R169 (RF)**
V: 100mV/div. H: 0.2µsec/div.



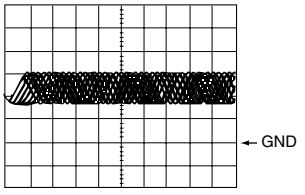
2 **TP2 (RFO)**
V: 500mV/div. H: 0.1µsec/div.



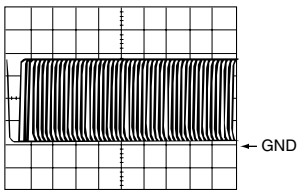
4 **TP3 (Tracking Error)**
(Al-Inner Tracking Off)
V: 500mV/div. H: 2msec/div.



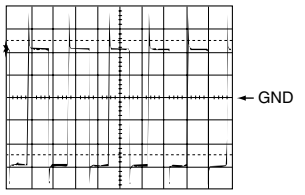
5 **IC2 - pin 39 (EFM before slice)**
V: 1V/div. H: 1µsec/div.



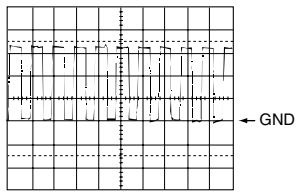
6 **IC2 - pin 1 (EFM)**
V: 1V/div. H: 0.2µsec/div.



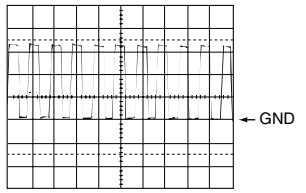
7 **IC3 - pin 41 (REGB)**
V: 1V/div. H: 5msec/div.



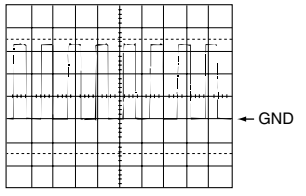
8 **Foot of R261 (FPWM)**
V: 1V/div. H: 5msec/div.



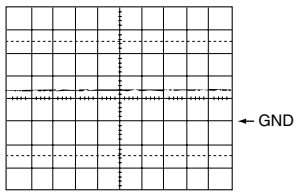
9 **Foot of R262 (VPWM)**
V: 1V/div. H: 5msec/div.



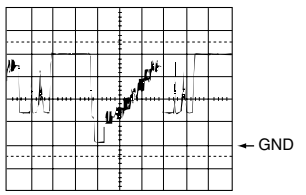
10 **Foot of R263 (PPWM)**
V: 1V/div. H: 5msec/div.



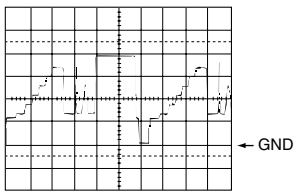
11 **Foot of R264 (RPWM)**
V: 1V/div. H: 5msec/div.



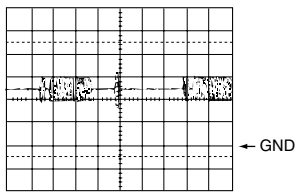
12 **IC18 - pin 45**
(Composite Video output)
V: 0.2V/div. H: 1msec/div.



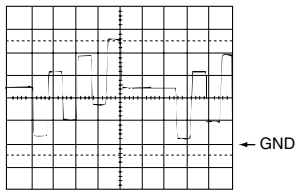
13 **IC18 - pin 39 (Y output)**
V: 0.2V/div. H: 5msec/div.



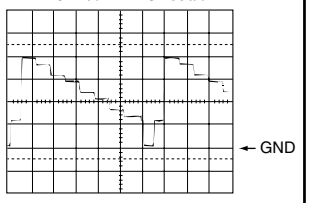
14 **IC18 - pin 36 (C output)**
V: 0.2V/div. H: 5msec/div.



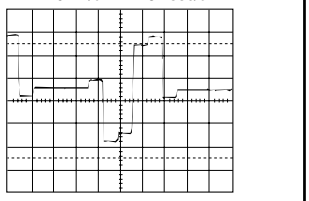
15 **IC18 - pin 45 (C_B output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.



16 **IC18 - pin 39 (Y output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.

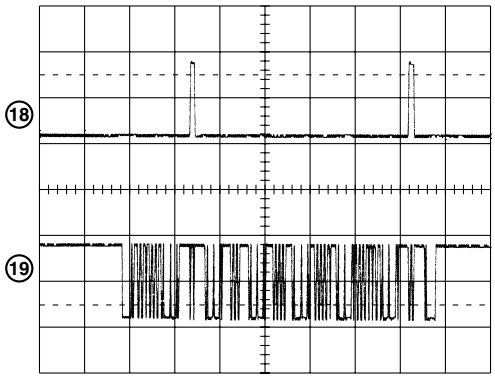


17 **IC18 - pin 36 (C_R output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.

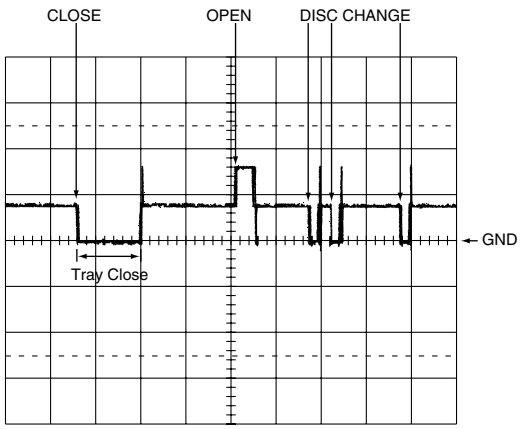


18 **CN55 - pin 5 (DISC SENS)**
V: 2V/div. H: 1sec/div.

19 **CN55 - pin 2 (TRAY POS)**
V: 2V/div. H: 1sec/div.



20 **CN55 - pin 4 (SED0)**
V: 2V/div. H: 5sec/div.



H 3/3 MAIN ASSY

IC5501 (PDC092A) • Mode: DVD Play

Pin	Name	Voltage (V)	Pin	Name	Voltage (V)	Pin	Name	Voltage (V)
1	XDSP MUTE	4.8	36	G07	*	71	RDS DATA	0
2	XCDC MUTE	4.8	37	G08	*	72	VDD4	4.8
3	CDC DO	3.3	38	G09	*	73	RYDE	4.9
4	CDC CK	4.8	39	G10	*	74	EXP CK	0
5	XCDC CS	4.8	40	G11	*	75	EXP DATA	0
6	XDSP RST	4.8	41	G12	*	76	EXP CE	0
7	XDSP SUB CS	4.8	42	G13	*	77	RDS ON/OFF	0
8	XDSP MAIN CS	4.8	43	N.C.	–	78	TX MUTE	0
9	WEN/DI	3.3	44	N.C.	–	79	XA OUT MUTE	4.7
10	WDO	3.4	45	N.C.	–	80	X CENTER MUTE	4.7
11	XRESET	4.8	46	VDD3	4.8	81	XDIR RST	4.7
12	TEST MODE	0	47	S01	*	82	POWER	4.5
13	3.3DETECT	3.2	48	S02	*	83	XRDY1	0
14	VSS1	0	49	S03	*	84	DVDON /XOFF	4.7
15	CF1	2.5	50	S04	*	85	SYS CK	0
16	CF2	2.5	51	VFDP	-30.8	86	SYS DATA	0
17	VDD1	4.8	52	S05	*	87	XDVDRST1	4.8
18	KEY0	4.8	53	S06	*	88	XLINE MUTE	0
19	ST/MUTE	4.9	54	S07	*	89	VSS2	0
20	MODEL	0	55	S08	*	90	VDD2	4.8
21	FAN DET	0	56	S09	*	91	MAIN VOL CE	0
22	KEY1	4.8	57	S10	*	92	PLLCE	0
23	JOG	0.2	58	S11	*	93	DIR CE	0
24	XSTBY LED	4.7	59	S12	*	94	WCLK	0
25	N.C.	–	60	S13	*	95	DSP SO	0
26	AC	2.4	61	S14	*	96	DSP SI	0
27	LT11	0	62	S15	*	97	DSP CK	4.8
28	RDS CK	0	63	S16	*	98	SSI	0
29	REMOCON	4.6	64	S17	*	99	SSO1	4.8
30	G01	*	65	S18	*	100	SSCK	4.6
31	G02	*	66	N.C.	–			
32	G03	*	67	HP DET	0			
33	G04	*	68	DIR DI	5.0			
34	G05	*	69	TX DATA	4.2			
35	G06	*	70	DIR ERR	0			

Note * : FL drive voltage, pulse waveform of Low level is VFDP (about -31V) and High level is VDD (+5V).

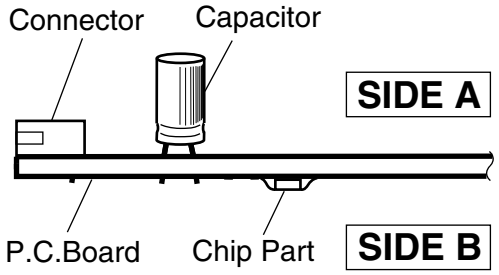
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

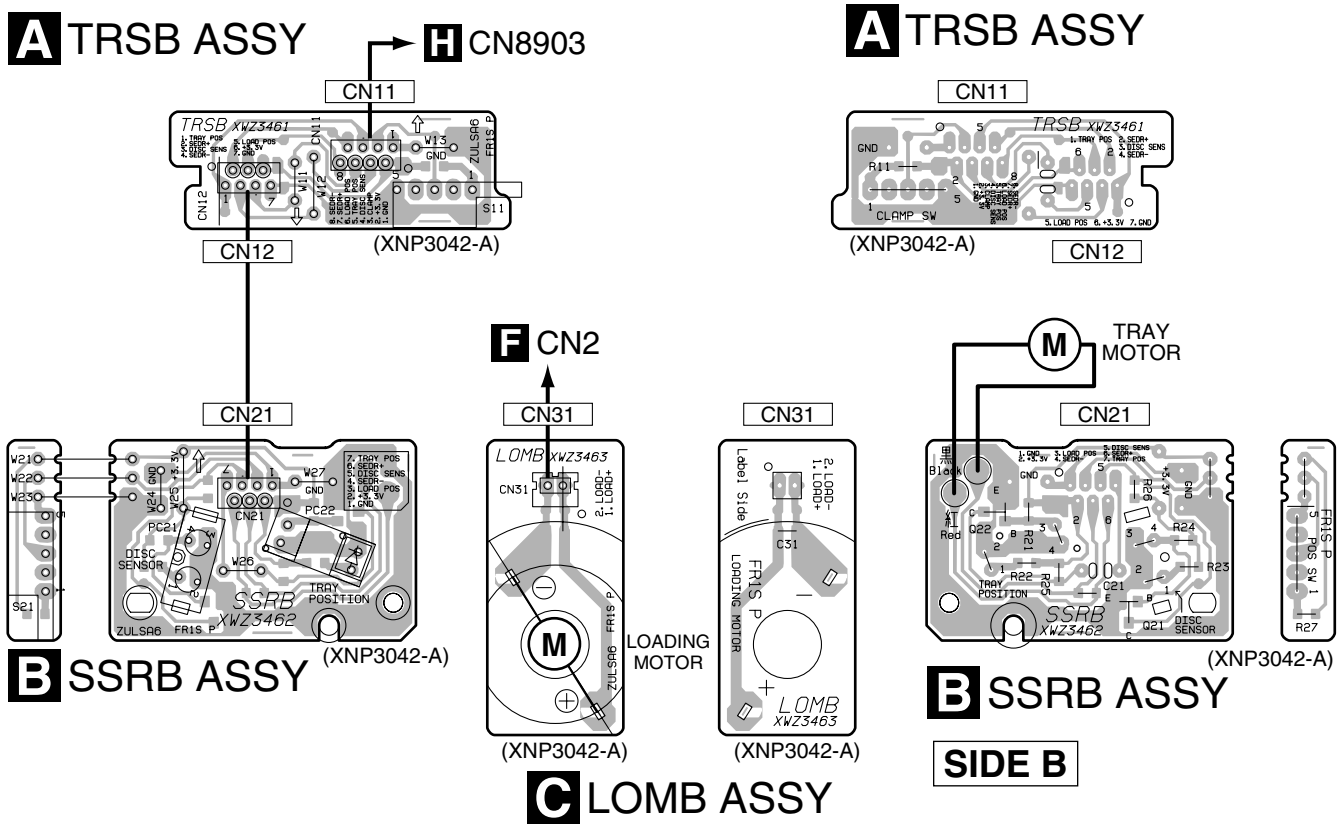
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

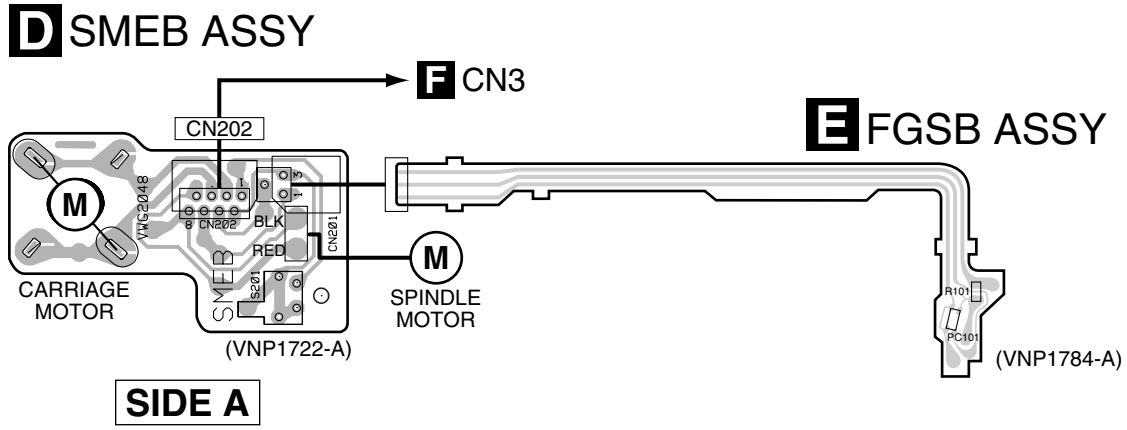
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 TRSB, SSRB, LOMB, SMEB, and FGSB ASSYS

SIDE A **SIDE B**



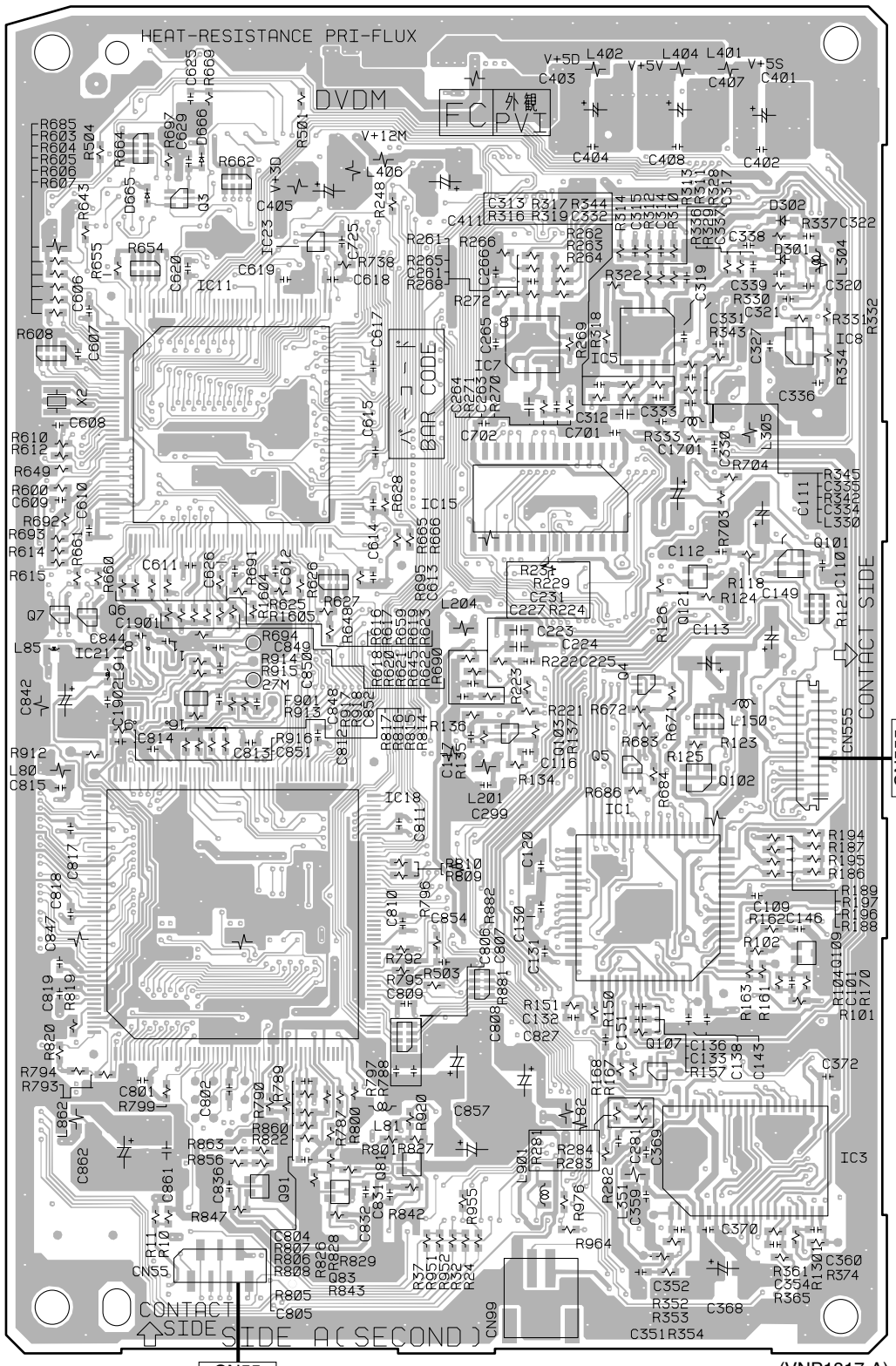


4.2 DVDM ASSY

SIDE A

SIDE A

F DVDM ASSY



H CN8902

F

F

SIDE B

SIDE B

H CN8502

F DVDM ASSY

CN5

C CN31

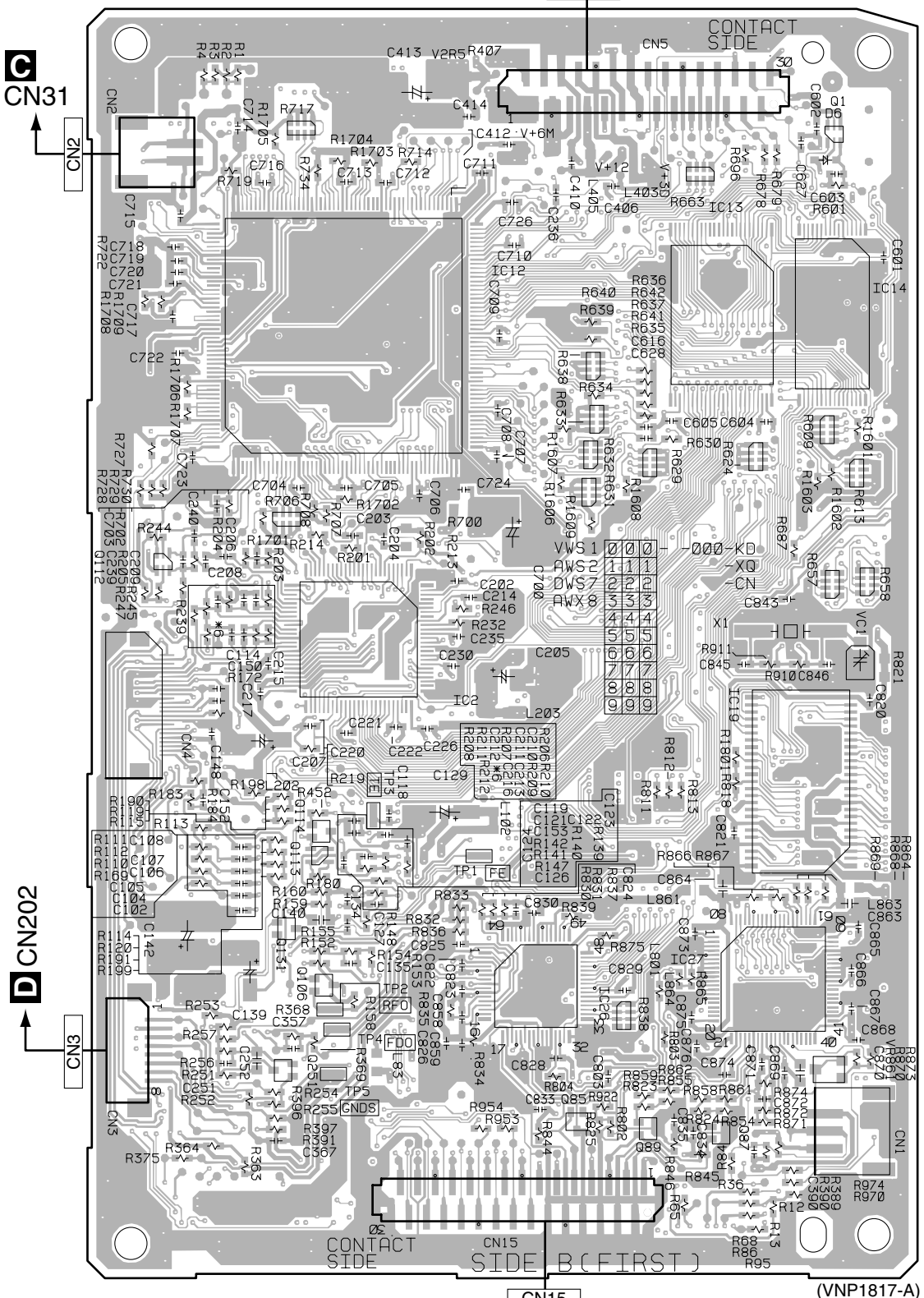
CN2

D CN202

CN3

CN15

H CN8501



Q1

IC12 IC13 IC14

Q112

IC2

IC19

Q114

Q113

Q131

Q106 IC26 IC27

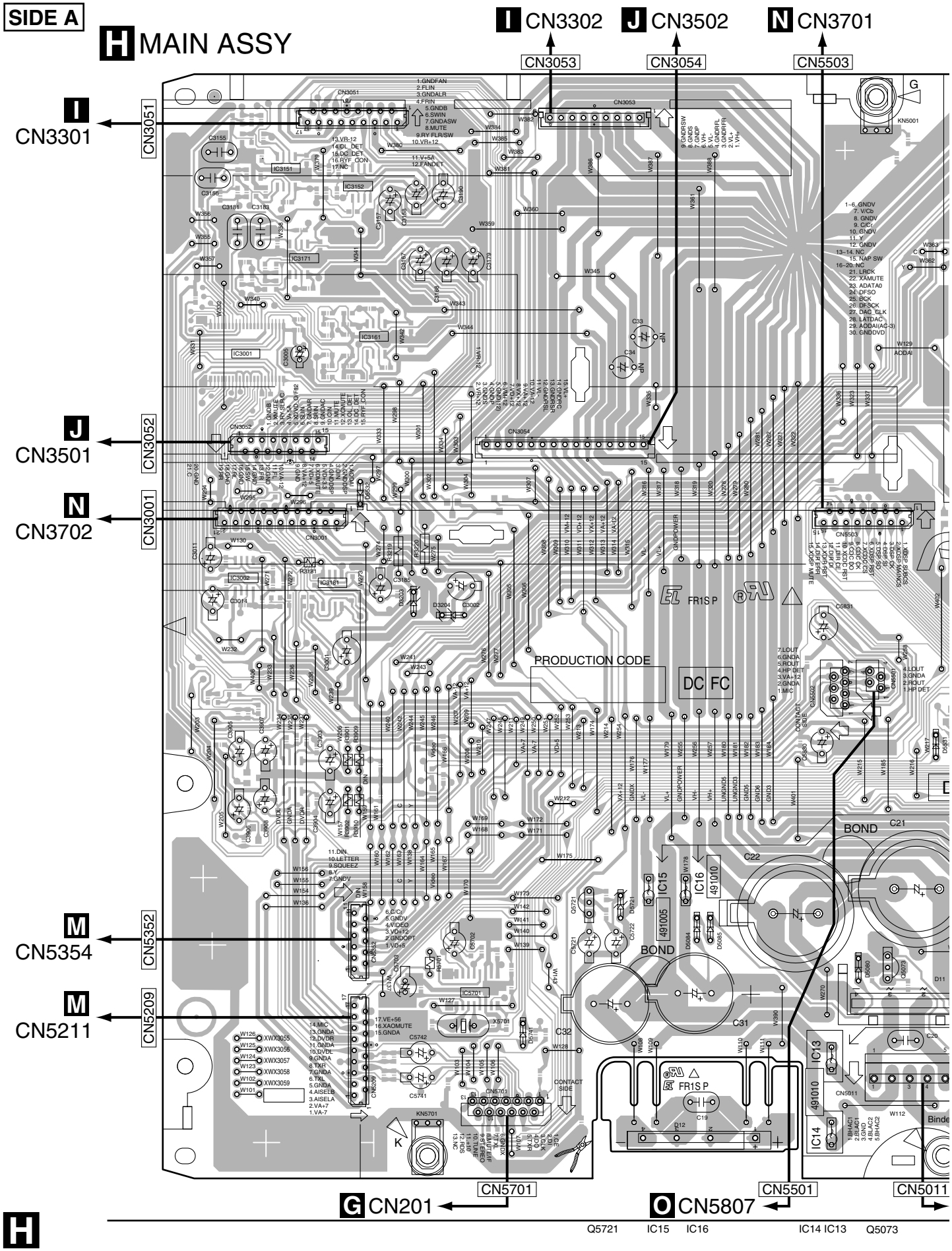
Q251

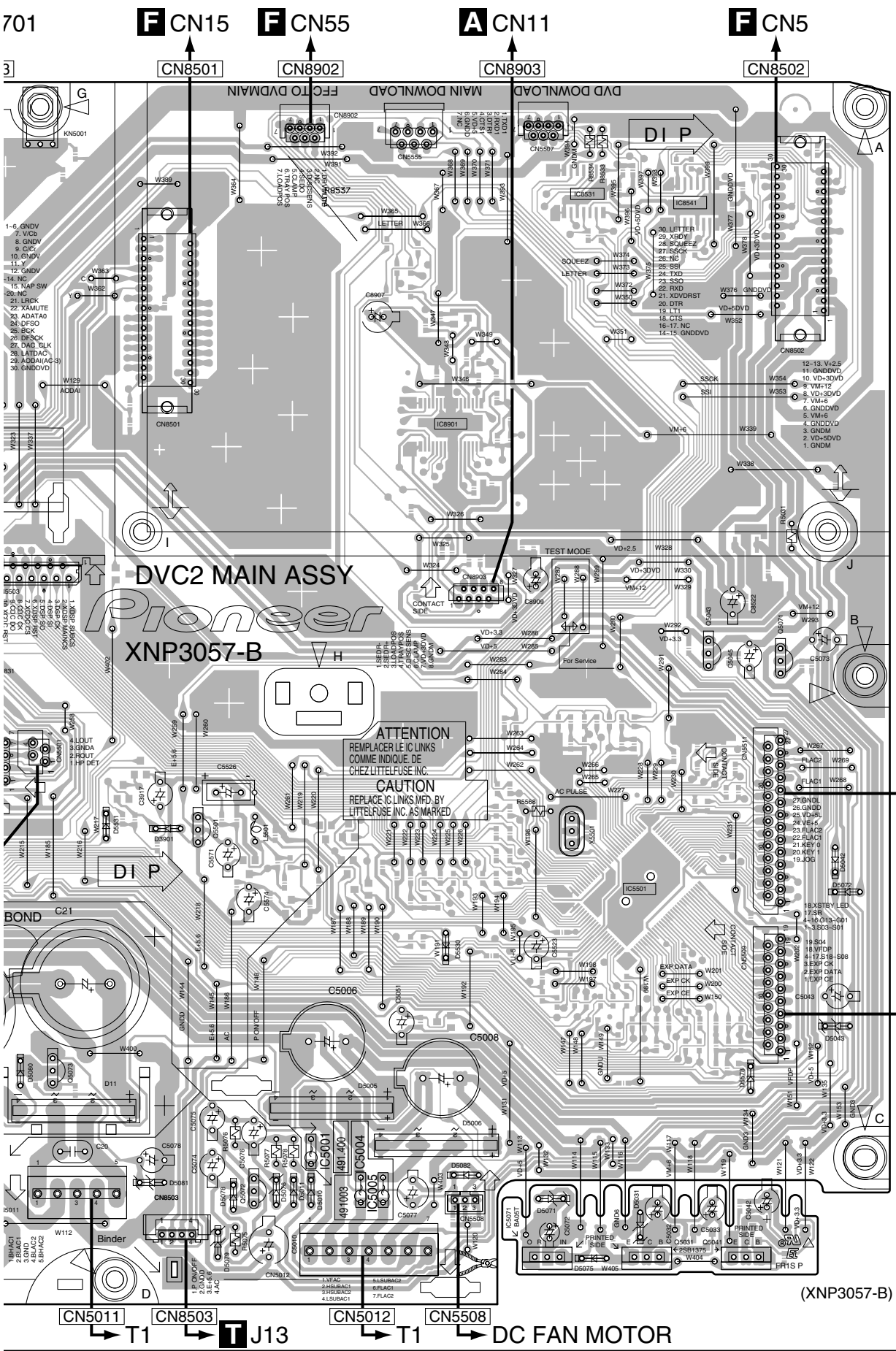
Q85 Q89 Q87

F

F

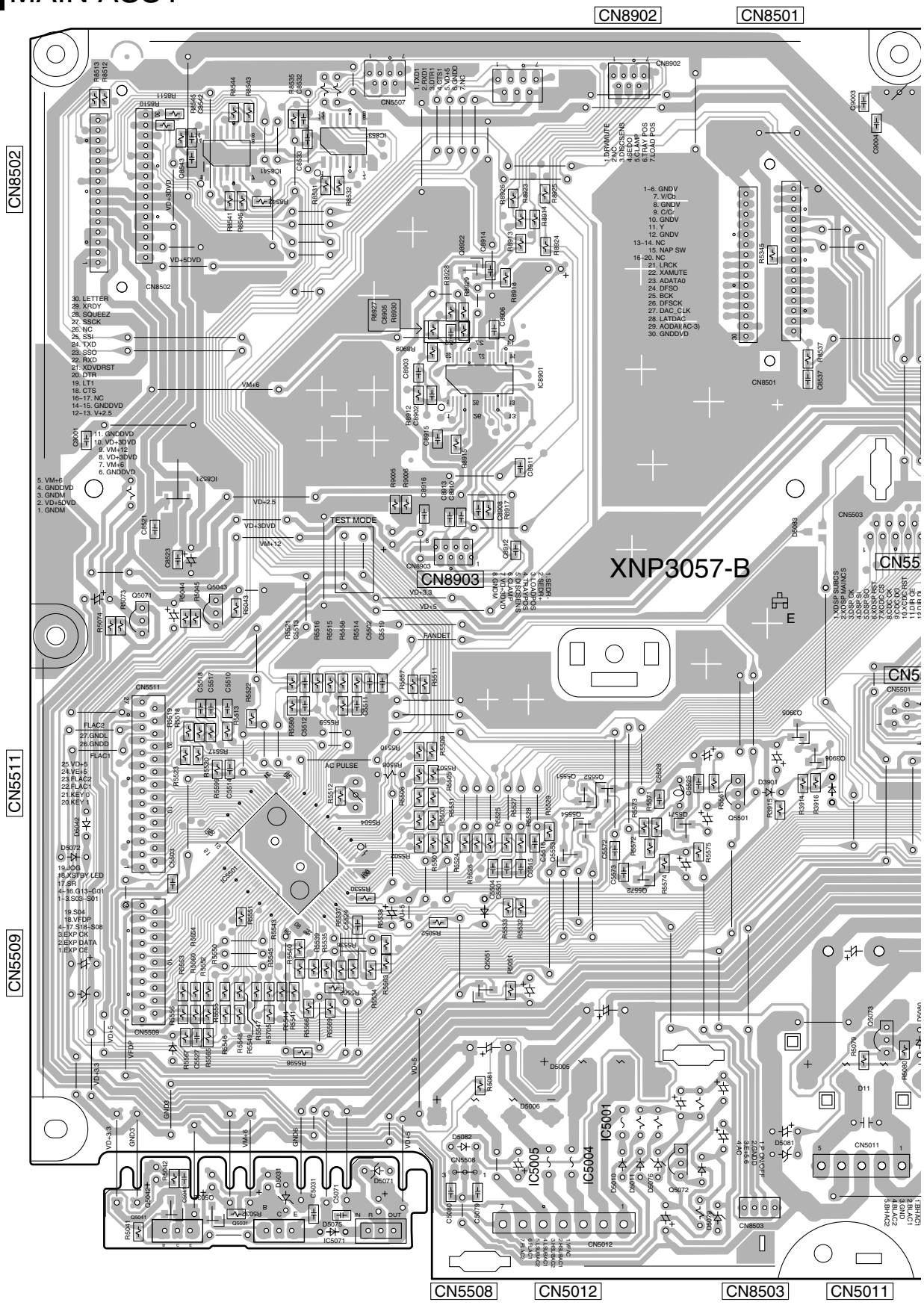
4.3 MAIN ASSY


SIDE A
H MAIN ASSY
I CN3302
J CN3502
N CN3701
CN3053
CN3054
CN5503
I CN3301
CN3051
J CN3501
CN3052
N CN3702
CN3001
M CN5354
CN5352
M CN5211
CN5209
G CN201
CN5701
O CN5807
CN5501
CN5011
PRODUCTION CODE
DC FC
BOND
FR1S P
Q5721
IC15
IC16
IC14 IC13
Q5073


F CN15
F CN55
A CN11
F CN5
CN8501
CN8902
CN8903
CN8502
DVC2 MAIN ASSY
Pioneer
XNP3057-B
ATTENTION
REMPLACER LE IC LINKS
COMME INDIQUE. DE
CHEZ LITTELFUSE INC.
CAUTION
REPLACE IC LINKS MFD. BY
LITTELFUSE INC. AS MARKED
TEST MODE
For Service
DIP
CONTACT SIDE
PRINTED SIDE
AC PULSE
O CN5511
CN5802
O CN5509
CN5801
CN5011
T1
CN8503
T J13
CN5012
T1
CN5508
DC FAN MOTOR
(XNP3057-B)
Q5073
Q5501
Q5072
IC5001
IC5004
IC5005
IC5071
Q5031
Q5043
Q5041
Q5071

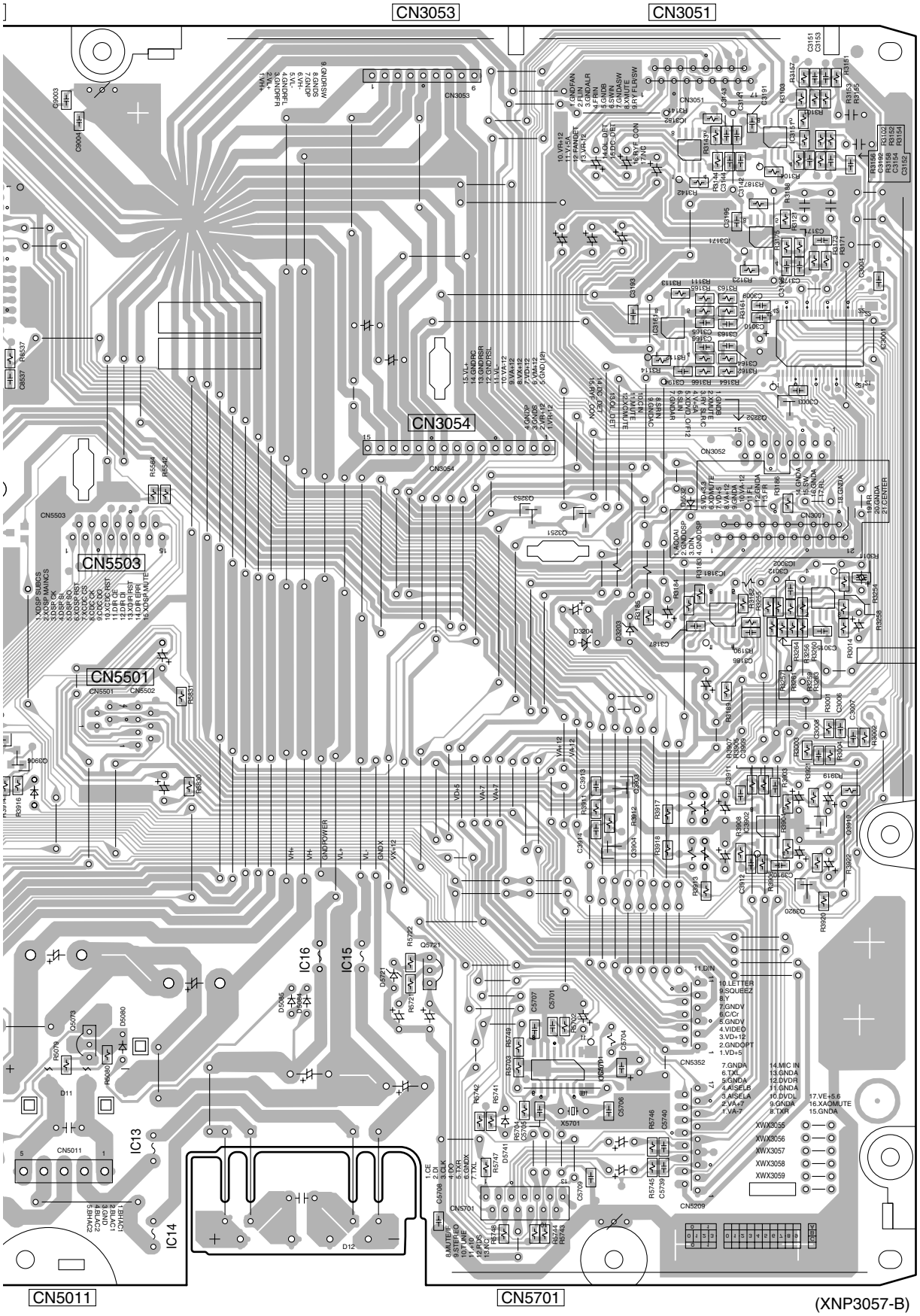
SIDE B

H MAIN ASSY



IC8521 IC8541 IC8531 Q8922 IC8901
Q5042 Q5032 IC5501 Q5051 Q5553 Q5551 Q5554 Q5552 Q5571 Q3905 Q3906

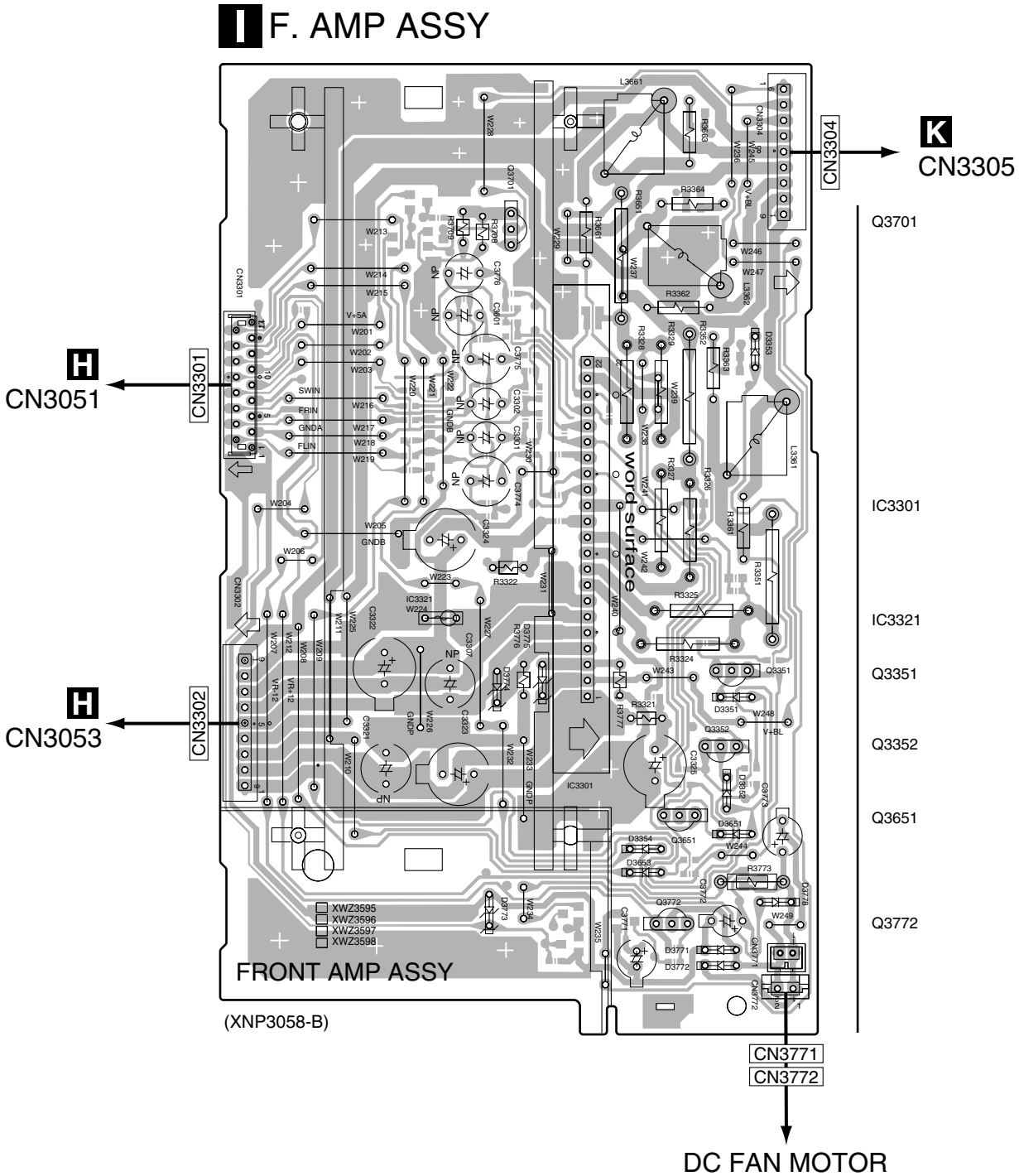
SIDE B



Q3253 Q3251 IC3161 IC3152 IC3181 IC3171 IC3151 Q3252 IC3001 IC3002
905 Q3906 IC5701 Q3904 Q3903 IC3902 Q3920 Q3919

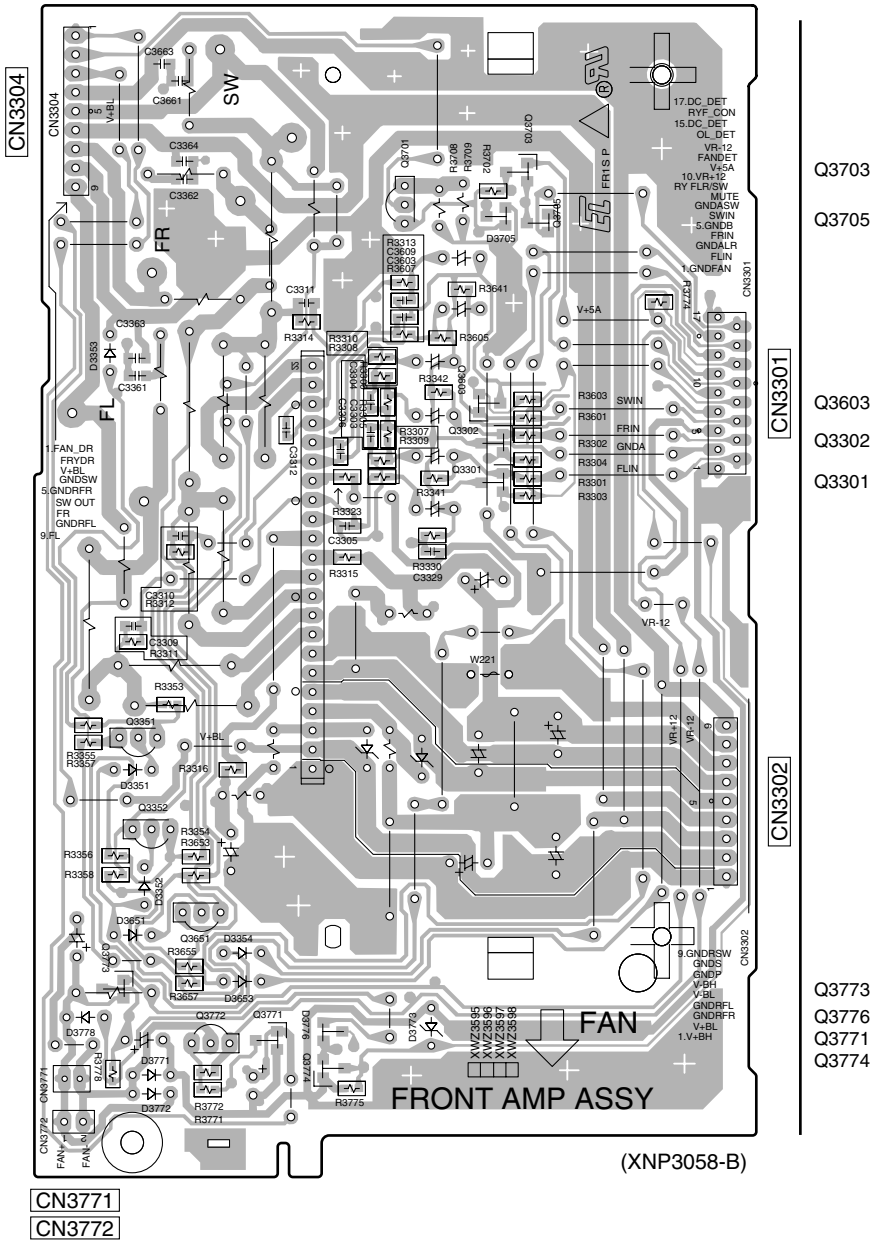
4.4 F. AMP ASSY

SIDE A **SIDE A**

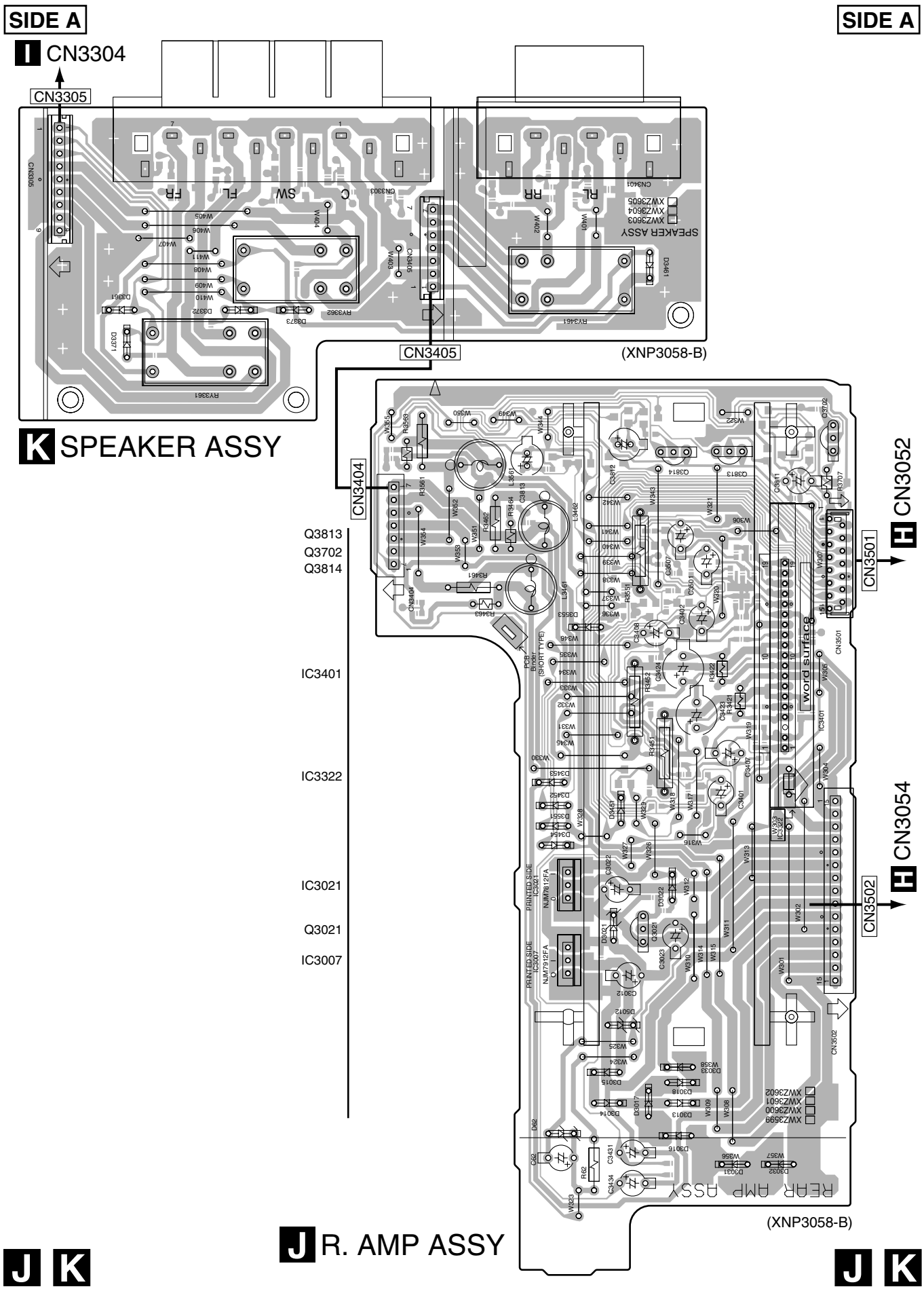


SIDE B

F. AMP ASSY



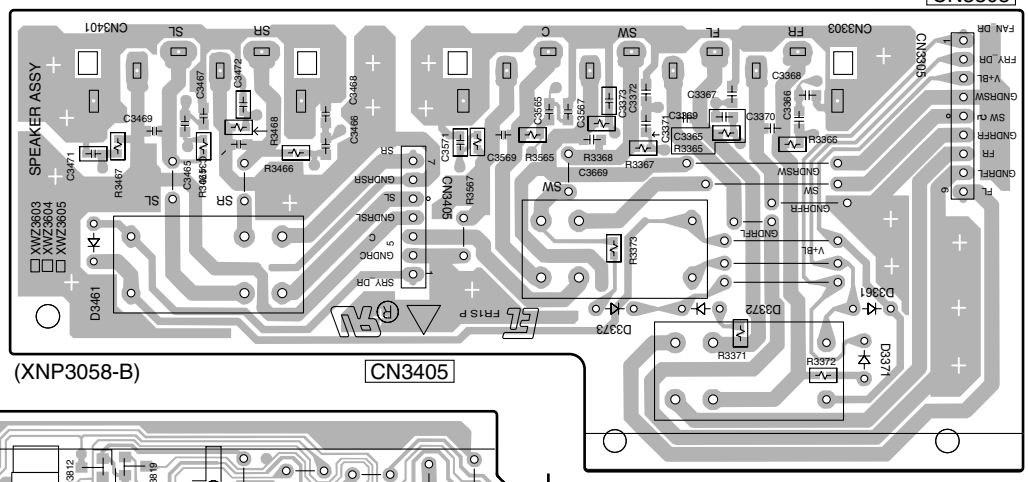
4.5 R. AMP and SPEAKER ASSYS



SIDE B

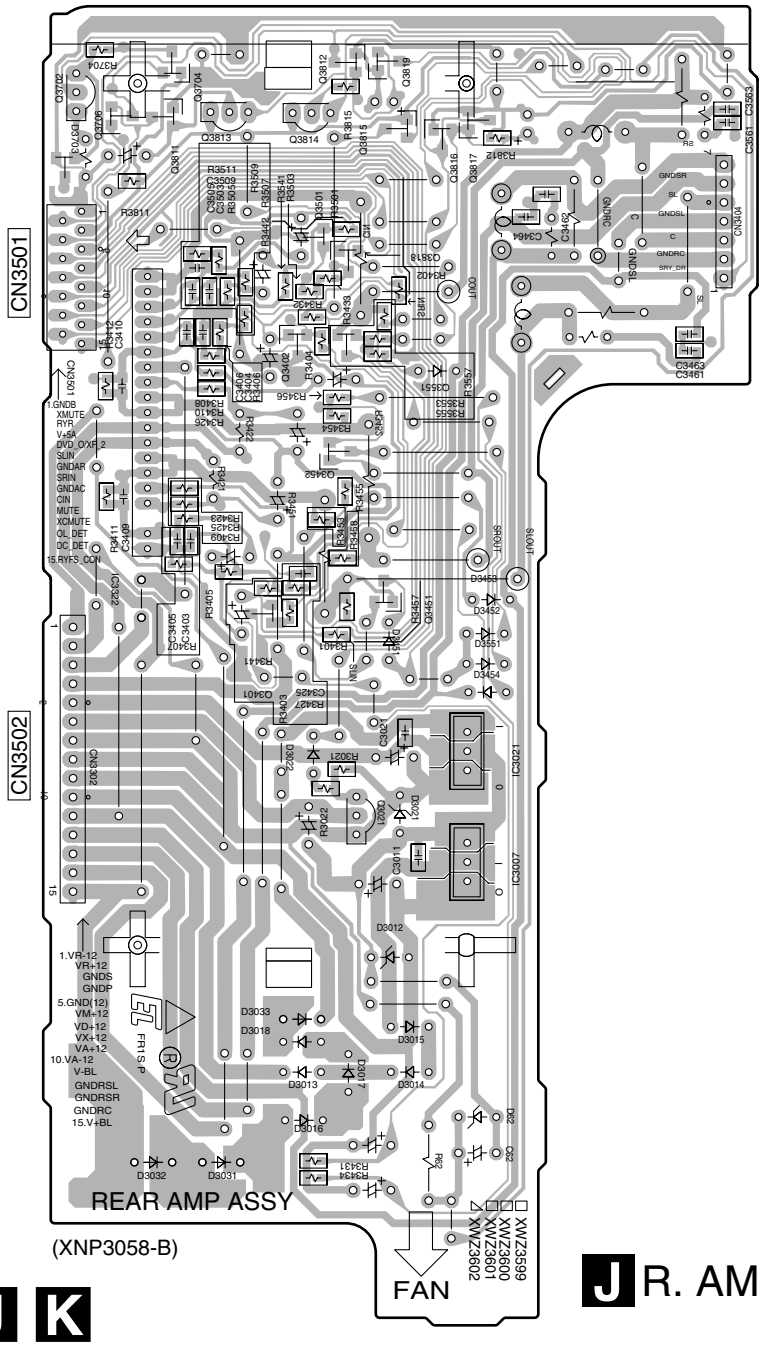
SIDE B

CN3305



(XNP3058-B)

K SPEAKER ASSY



(XNP3058-B)

Q3704
Q3812
Q3819
Q3706
Q3811
Q3815
Q3816
Q3817

Q3818

Q3402
Q3551

Q3452

Q3501

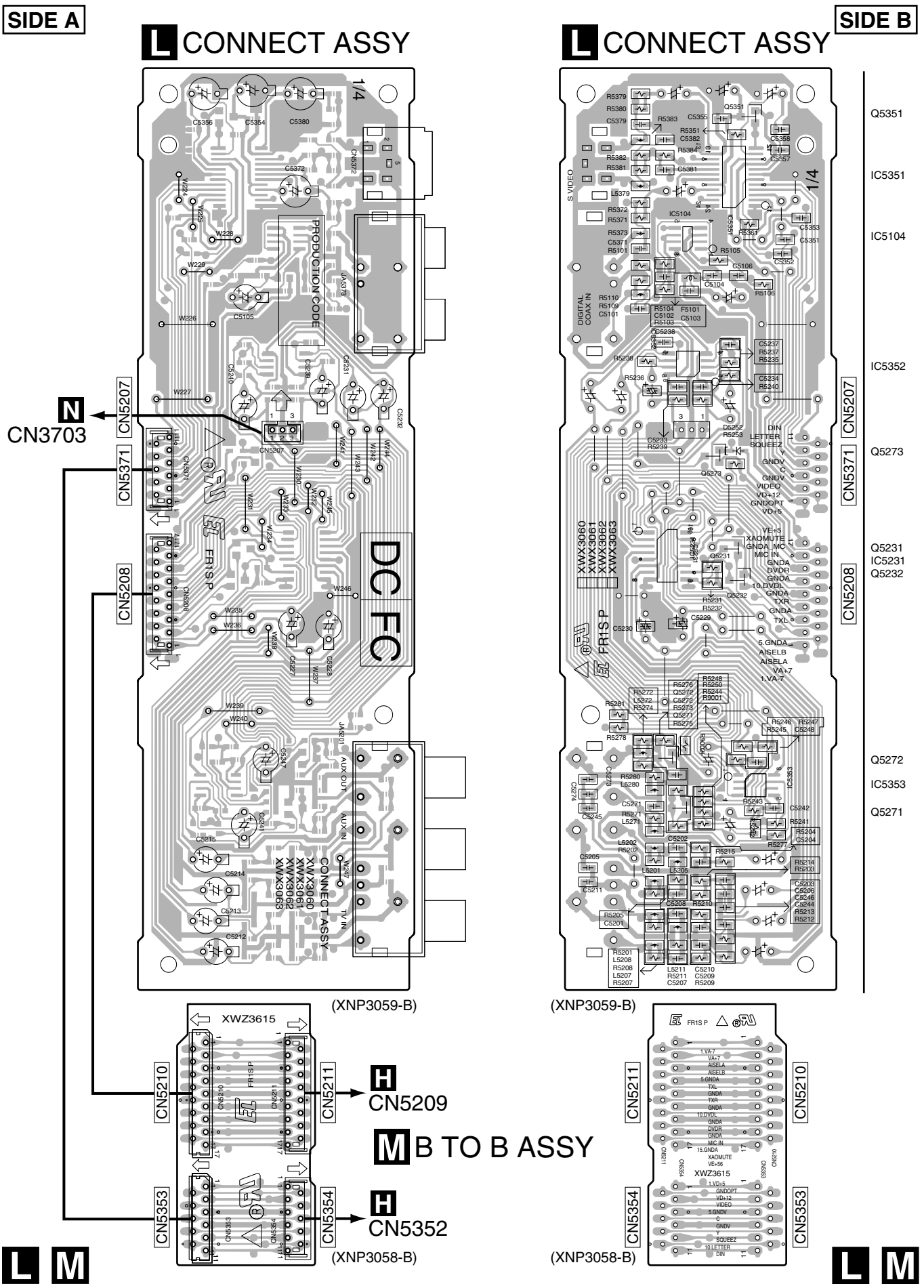
Q3451
Q3401

J R. AMP ASSY

XWZ3599
XWZ3600
XWZ3601
XWZ3602

J **K**

4.6 CONNECT and B TO B ASSYS

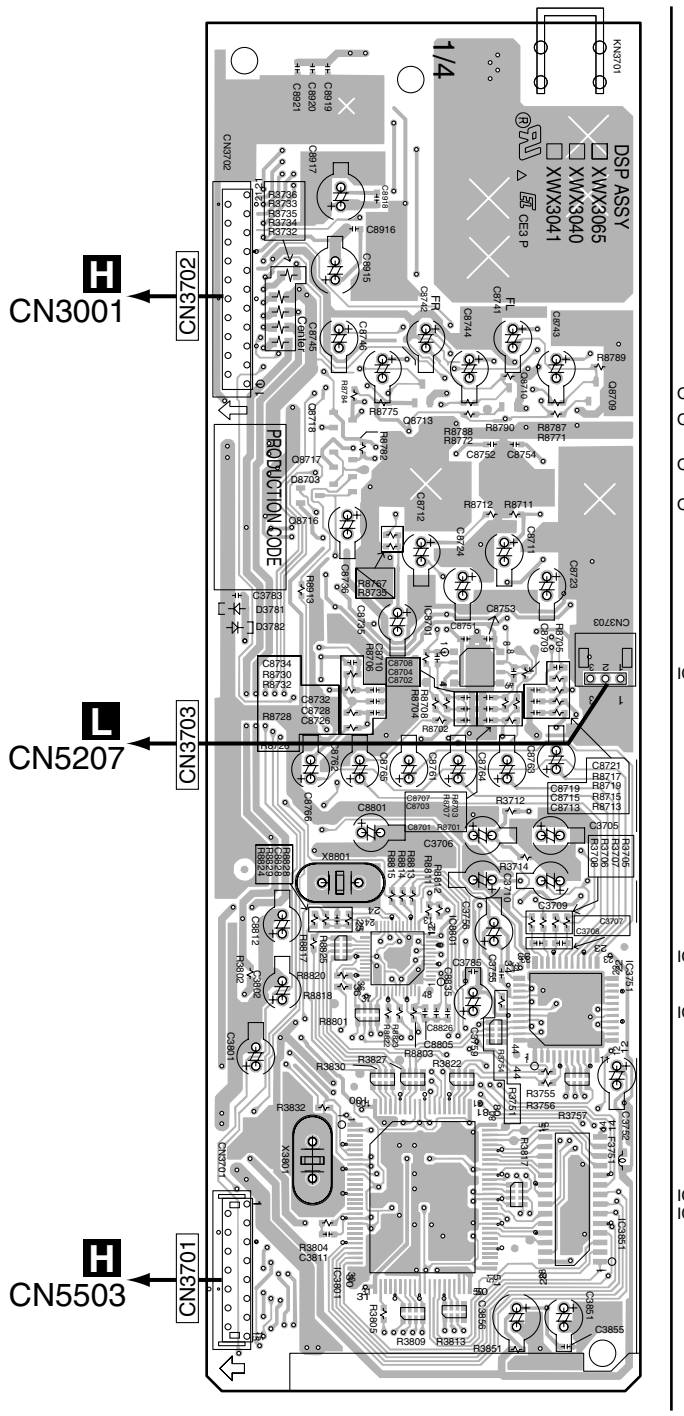


4.7 DSP ASSY

SIDE A

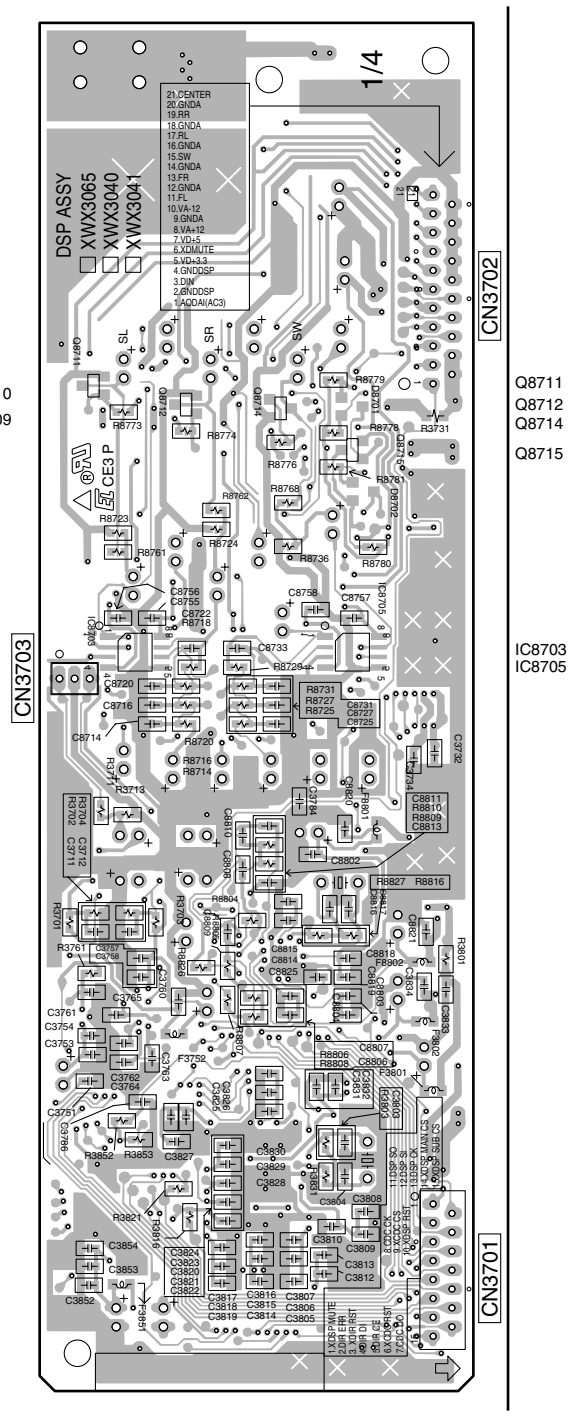
SIDE B

N DSP ASSY



(XNP3045-D)

N DSP ASSY

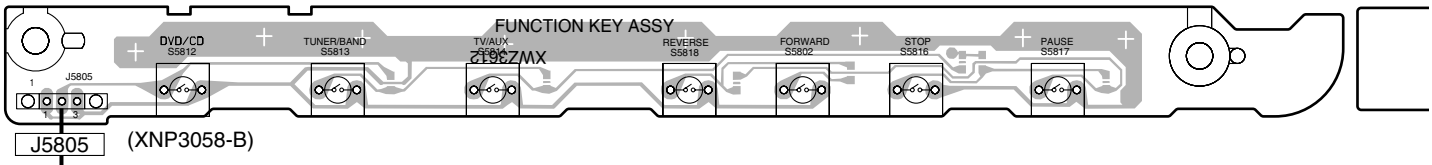


(XNP3045-D)

4.8 DISPLAY, JOG, DISC KEY, HP MIC and FUNCTION KEY ASSYS

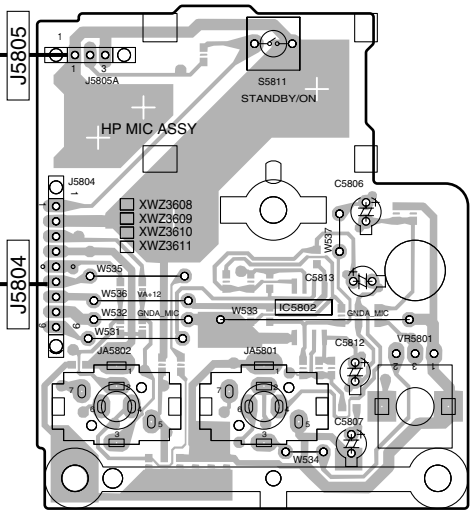
SIDE A

S FUNCTION KEY ASSY



J5805 (XNP3058-B)

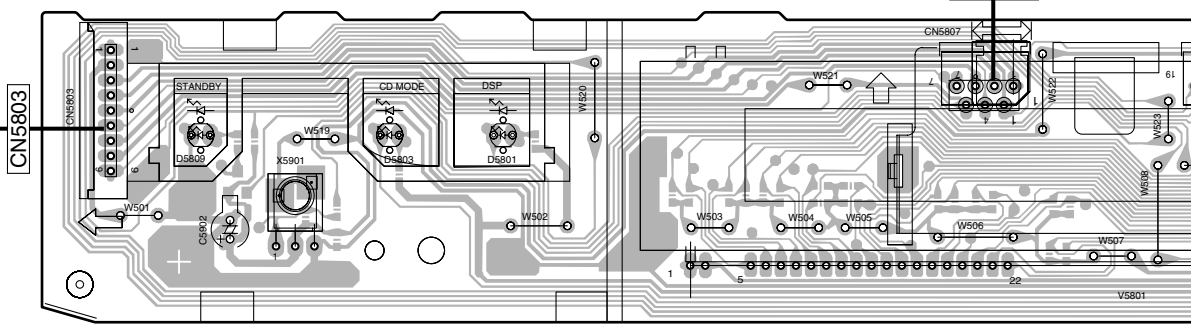
R HP MIC ASSY



(XNP3058-B)

J CN5501

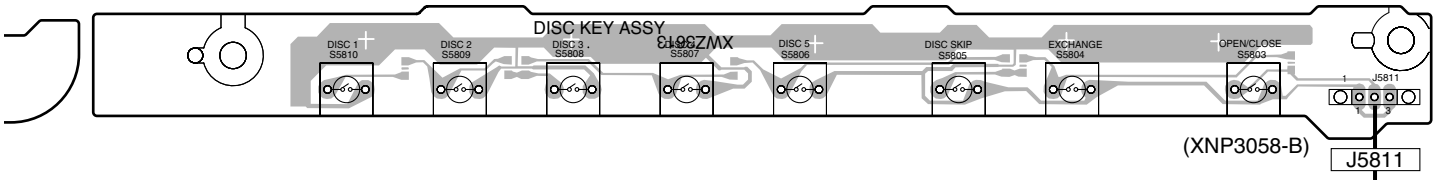
O DISPLAY ASSY



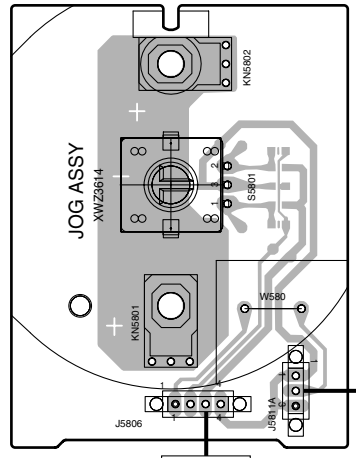
O R S

SIDE A

Q DISC KEY ASSY



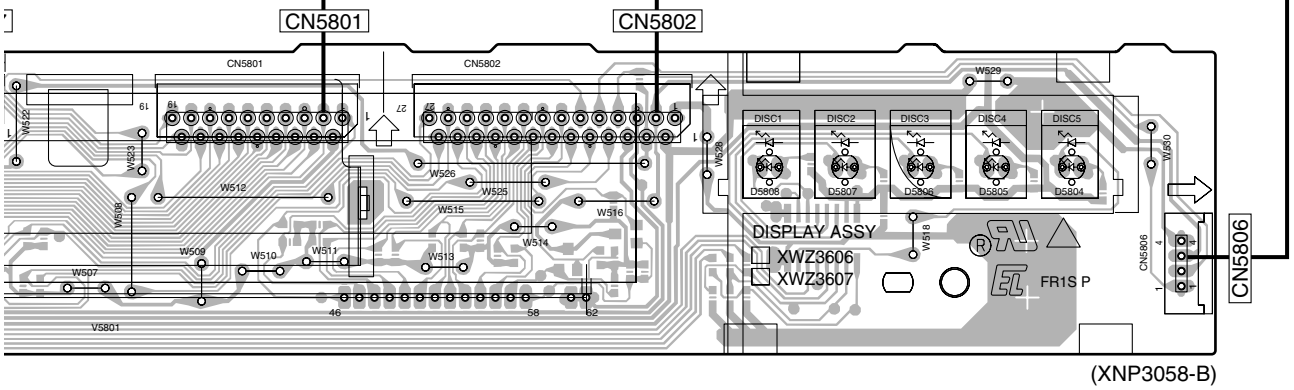
P JOG ASSY



01

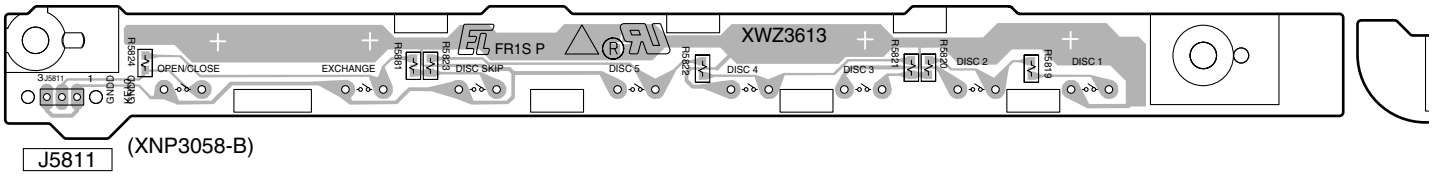
J CN5509

J CN5511



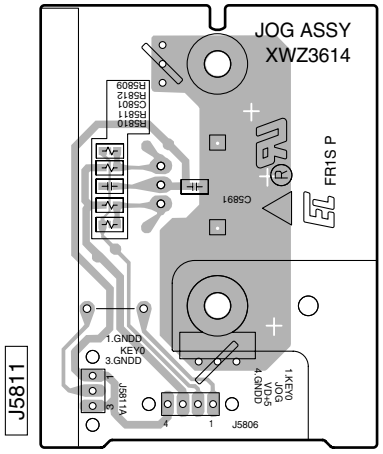
SIDE B

Q DISC KEY ASSY



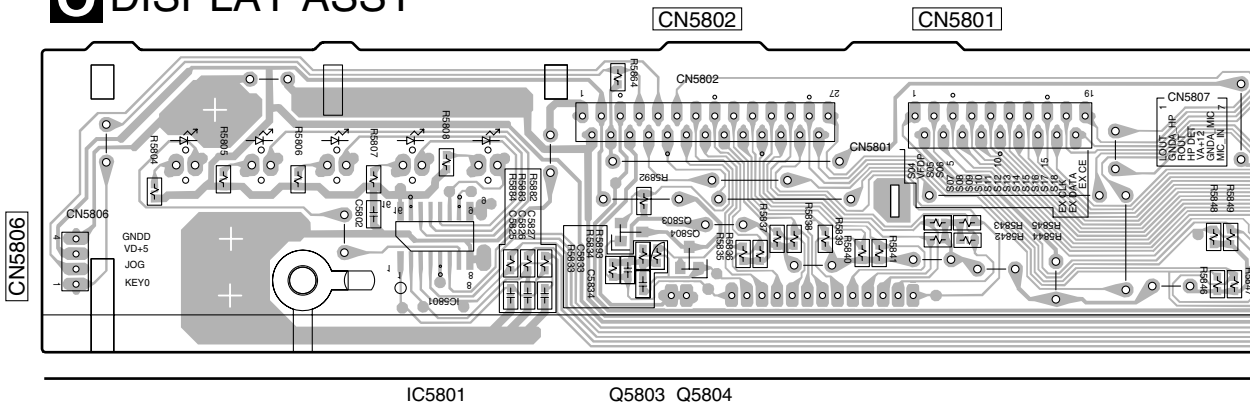
J5811 (XNP3058-B)

P JOG ASSY



J5806 (XNP3058-B)

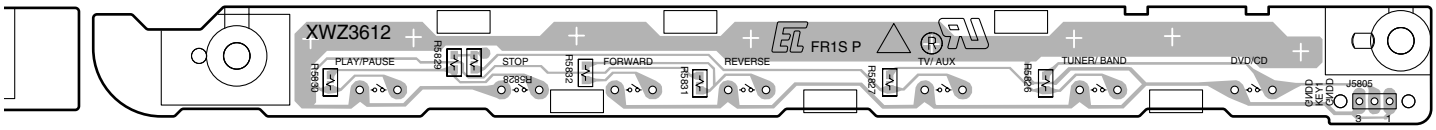
O DISPLAY ASSY



O P Q

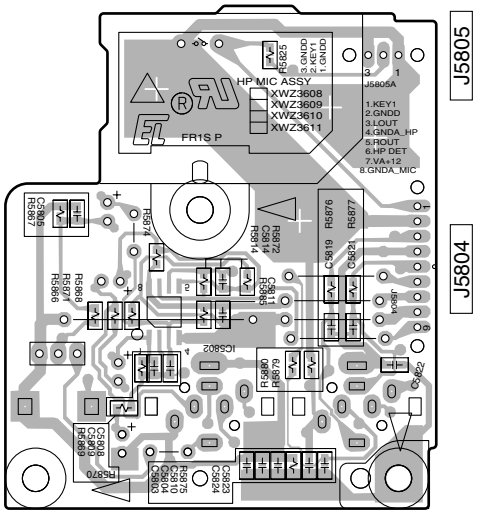
SIDE B

S FUNCTION KEY ASSY

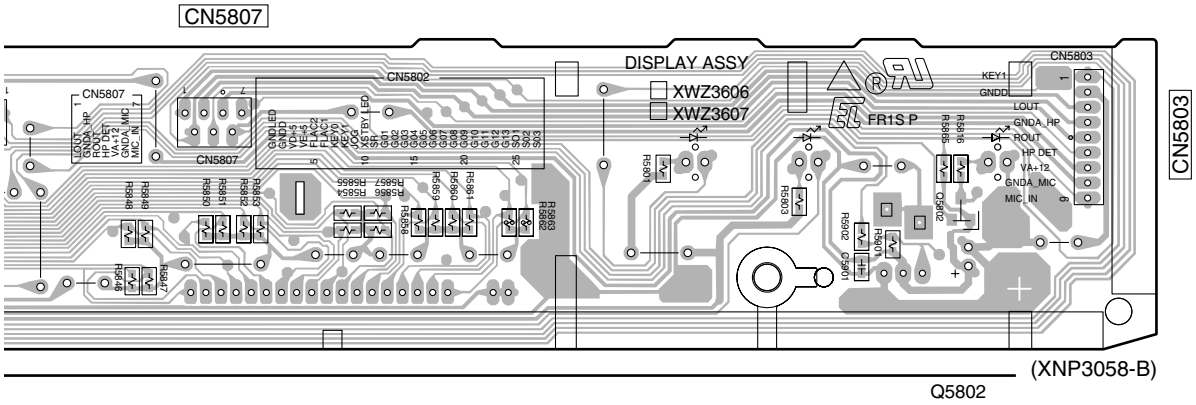


(XNP3058-B) J5805

R HP MIC ASSY



(XNP3058-B)



(XNP3058-B)

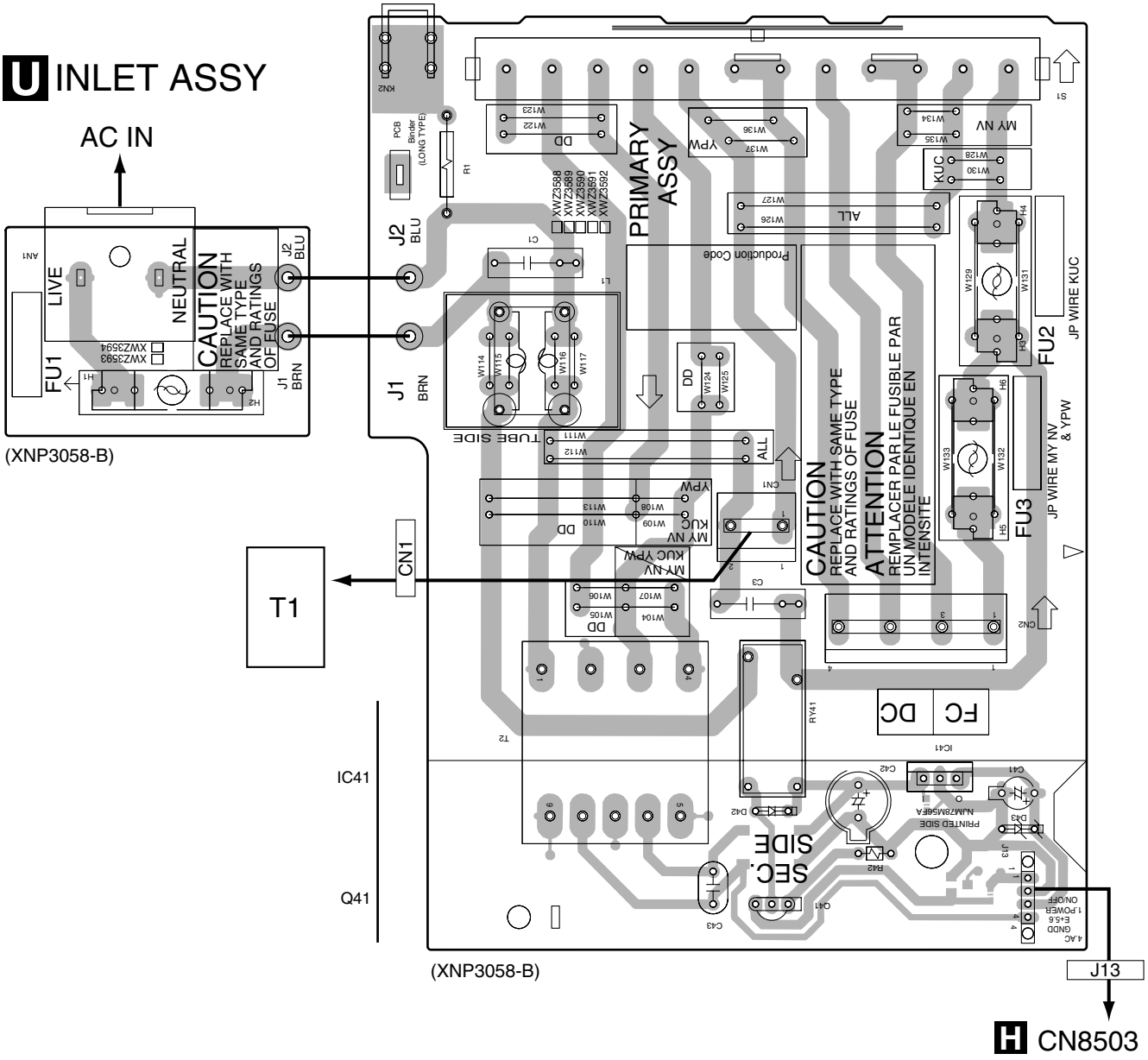
Q5802

4.9 PRIMARY and INLET ASSYS

SIDE A **SIDE A**

T PRIMARY ASSY

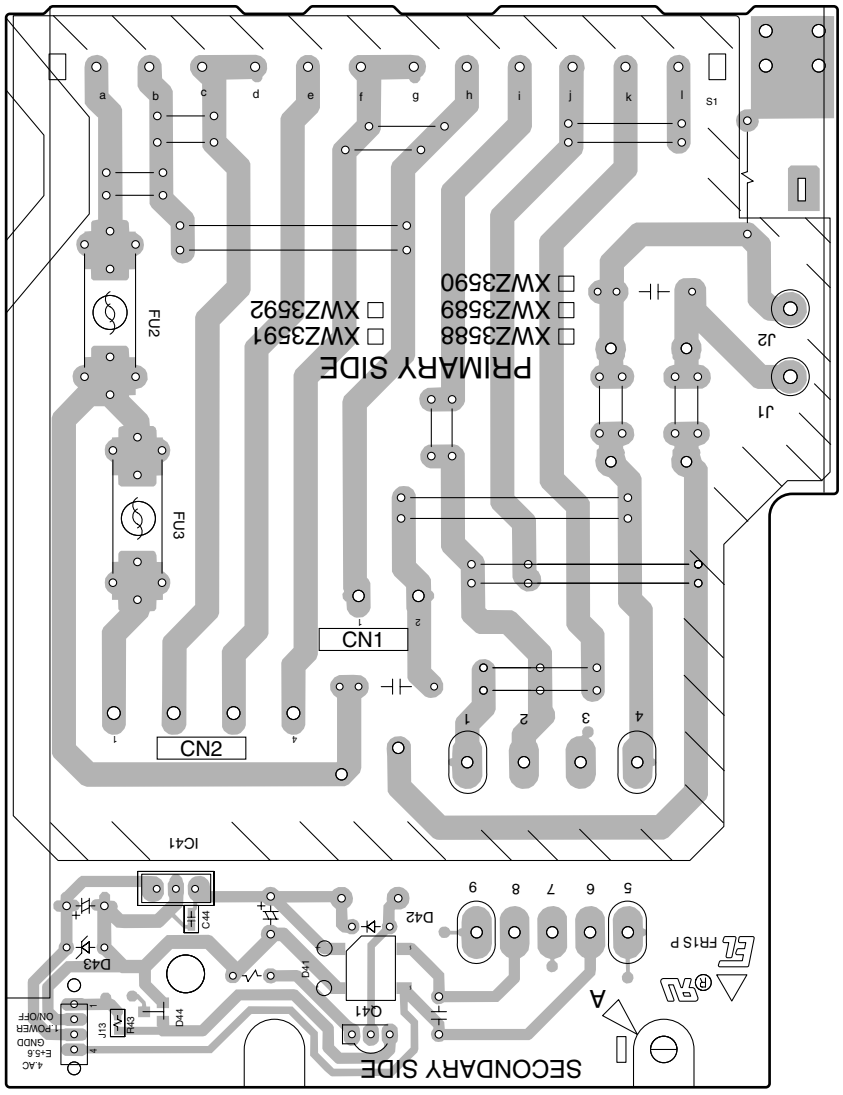
U INLET ASSY



SIDE B

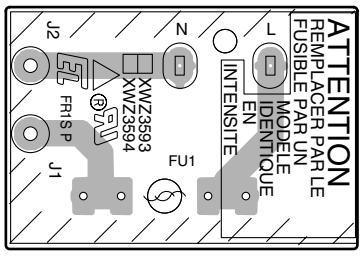
SIDE B

T PRIMARY ASSY



(XNP3058-B)

U INLET ASSY

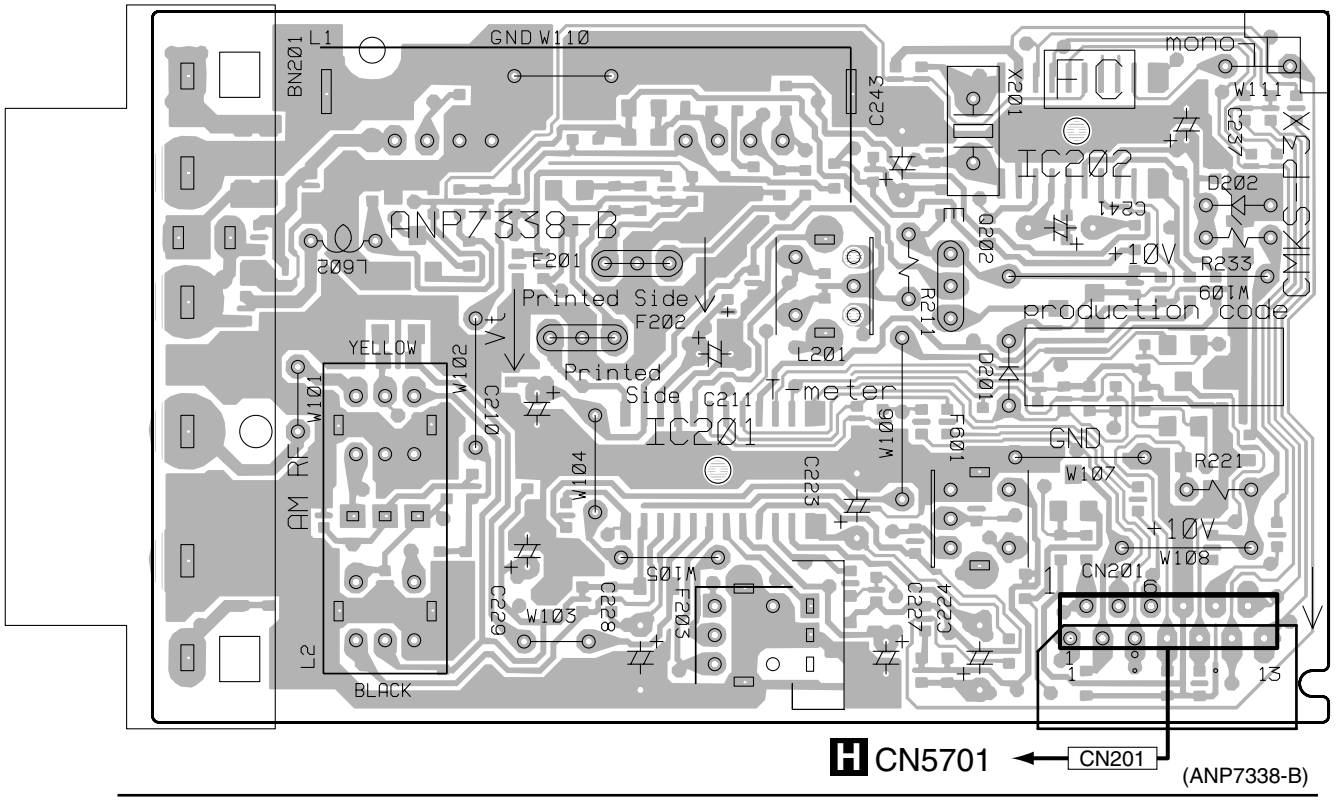


(XNP3058-B)

4.10 FM/AM TUNER MODULE

SIDE A **SIDE B**

G FM/AM TUNER MODULE **SIDE A**

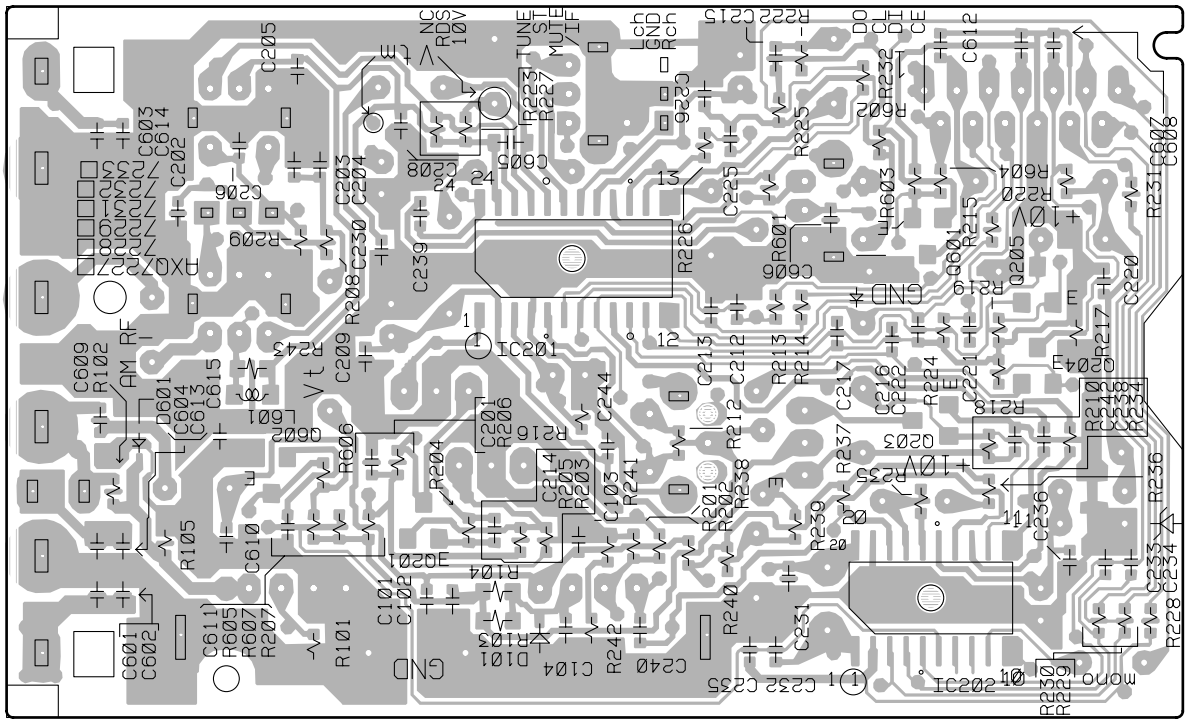


H CN5701 ← CN201

(ANP7338-B)

Q202

G FM/AM TUNER MODULE **SIDE B**



(ANP7338-B)

Q201 IC201 Q203 IC202 Q205 Q204

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→	*56 x 10^1* →	*561*	····· *RD1/4PU 5 6 1 J*
47k Ω	→	*47 x 10^3* →	*473*	····· *RD1/4PU 4 7 3 J*
0.5 Ω	→	*R50*		····· *RN2H R 5 0 K*
1 Ω	→	*1R0*		····· *RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→	*562 x 10^1* →	*5621*	····· *RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1	MECB ASSY	XWM3197
NSP	2	TRSB ASSY	XWZ3461
NSP	2	SSRB ASSY	XWZ3462
NSP	2	LOMB ASSY	XWZ3463
	1	Traverse Mechanism Assy-S	VXX2653
NSP	2	FGSB ASSY	VWG2009
NSP	2	SMEB ASSY	VWG2048
NSP	1	COMPLEX ASSY	XWM3201
	2	PRIMARY ASSY	XWZ3588
	2	INLET ASSY	XWZ3593
	2	F. AMP ASSY	XWZ3595
	2	R. AMP ASSY	XWZ3599
	2	SPEAKER ASSY	XWZ3603
	2	DISPLAY ASSY	XWZ3606
	2	HP MIC ASSY	XWZ3608
	2	FUNCTION KEY ASSY	XWZ3612
	2	DISC KEY ASSY	XWZ3613
	2	JOG ASSY	XWZ3614
	2	B TO B ASSY	XWZ3615
	1	DVDM ASSY	XWX3034
	1	MAIN ASSY	XWX3055
	1	CONNECT ASSY	XWX3060
	1	DSP ASSY	XWX3065
	1	FM/AM TUNER MODULE	AXQ7228

Mark	No.	Description	Part No.
		MECB ASSY	
		PC BOARD MECB	XNP3042
		A TRSB ASSY	
		SWITCH	
		S11	VSK1011
		RESISTORS	
		R11	RS1/10S0R0J
		OTHERS	
		CN12 7P FFC CONNECTOR	VKN1211
		CN11 8P FFC CONNECTOR	VKN1268
		B SSRB ASSY	
		SEMICONDUCTORS	
		Q21	2SC2412K
		Q22	DTC124EK
		PC21	GP2S28
		PC22	RPI-574

Mark	No.	Description	Part No.
		SWITCH	
		S21	VSK1011
		CAPACITORS	
		C21	CKSQYB102K50
		RESISTORS	
		All Resistors	RS1/10S###J
		OTHERS	
		CN21 7P FFC CONNECTOR	VKN1211
		C LOMB ASSY	
		CAPACITORS	
		C31	CKSQYB102K50
		OTHERS	
		CN31 KR CONNECTOR	B2B-PH-K
		D SMEB ASSY	
		SWITCH	
		S201	DSG1016
		OTHERS	
		CN201 3P FFC CONNECTOR	52044-0345
		CN202 8P FFC CONNECTOR	VKN1212
		PC BOARD SMEB	VNP1722
		E FGSB ASSY	
		SEMICONDUCTORS	
		PC101	GP2S60
		RESISTORS	
		R101	RS1/10S331J
		F DVDM ASSY	
		SEMICONDUCTORS	
		IC5, IC7	BA4510F
		IC21	BU2288FV
		IC14	KM68V1000CLT-7L
		IC1	LA9701M
		IC2	LC78652W
		IC3	M56788FP
		IC19	MB811171622A-100FN
		IC18	MB86373B
		IC15	MN414800CSJ-07
		IC11	PD3410A

Mark No.	Description	Part No.
IC12		PE5108A
IC8		TC7SHU04F
IC13		XYW3004
Q106, Q109, Q81, Q83, Q85		2SA1576A
Q114, Q121, Q251		2SC4081
Q131		DTC114EUA
Q102		HN1A01F
Q103, Q6, Q7		HN1B04FU
Q101		HN1C01F
Q112, Q113		HN1C01FU
Q107, Q4, Q5		RN1902
Q3		RN1911
Q1		RN4982
D301		KV1471E
D6		RB501V-40

COILS AND FILTERS

L150, L330	LCYA100J2520
L304	LCYA2R7J2520
L81 (22.0µH)	VTL1067
L9170 CHIP BEADS	VTL1084

CAPACITORS

C845, C846, C849–C852	CCSRCH100D50
C123, C146, C372, C402, C404	CCSRCH101J50
C408, C613, C806, C843	CCSRCH101J50
C322	CCSRCH120J50
C135	CCSRCH121J50
C104–C108	CCSRCH150J50
C206, C210, C211	CCSRCH151J50
C333	CCSRCH180J50
C314, C336	CCSRCH220J50
C152	CCSRCH221J50
C151	CCSRCH270J50
C127, C209, C337	CCSRCH331J50
C116, C134, C236	CCSRCH470J50
C122, C208	CCSRCH471J50
C126, C335	CCSRCH560J50
C334	CCSRCH5R0C50
C124, C132	CCSRCH680J50
C117, C240, C352, C360	CCSRCH681J25
C129, C142, C842	CEV101M10
C113, C139	CEV220M16
C405, C413, C700, C808	CEV221M4
C368, C411	CEV470M16
C111, C149, C205, C207, C401	CEV470M6R3
C403, C407	CEV470M6R3
C140, C223, C224, C252, C264	CKSQYB105K10
C312	CKSQYB105K10
C216, C313	CKSRYB102K50
C133, C136, C203, C220, C225	CKSRYB103K50
C239, C320, C321, C330, C625	CKSRYB103K50
C703, C711	CKSRYB103K50
C101, C102, C114, C118, C119	CKSRYB104K25
C121, C138, C204, C212, C213	CKSRYB104K25
C227, C231, C263, C315, C317	CKSRYB104K25
C332, C604, C606, C609	CKSRYB104K25
C611, C612, C614, C617, C619	CKSRYB104K25
C705, C707, C709, C710	CKSRYB104K25
C713, C714, C722, C724, C804	CKSRYB104K25
C807, C809, C811, C812	CKSRYB104K25
C814, C815, C817, C819, C821	CKSRYB104K25

Mark No.	Description	Part No.
C153, C266, C357		CKSRYB223K50
C214, C251, C261, C351, C354		CKSRYB472K50
C109, C110, C120, C130, C131		CKSRYF104Z50
C143, C150, C1901, C1902, C202		CKSRYF104Z50
C215, C221, C222, C226, C230		CKSRYF104Z50
C235, C265, C299, C319, C359		CKSRYF104Z50
C367, C369, C370, C601, C605		CKSRYF104Z50
C607, C608, C610, C615, C618		CKSRYF104Z50
C620, C626, C701, C702, C704		CKSRYF104Z50
C706, C708, C712, C715–C721		CKSRYF104Z50
C723, C726, C820, C844		CKSRYF104Z50
C148, C217, C327, C801, C802		CKSRYF105Z10
C810, C813, C818, C828, C830		CKSRYF105Z10

RESISTORS

R632	RAB4C0R0J
R657, R658	RAB4C103J
R121, R663	RAB4C220J
R123	RAB4C390J
R202, R3510	RS1/10S101J
R700	RS1/10S1R0J
R807	RS1/16S1201F
R806	RS1/16S1501F
R363, R365	RS1/16S1503F
R825–R827	RS1/16S2000F
R805	RS1/16S2701F
R361, R364	RS1/16S7502F
Other Resistors	RS1/16S###J

OTHERS

X2 CHIP CERALOCK (20MHz)	DSS1110
CN2 PH CONNECTOR	S2B-PH-SM3
FLEXIBLE CABLE	VDA1681
CN555 24P CONNECTOR	VKN1464
CN55 7P CONNECTOR	VKN1493
CN15, CN5 B TO B CONNECTOR	VKN1626
CN3 8P CONNECTOR	VKN1763
X1 CRYSTAL RESONATOR (27.000MHz)	VSS1159

G FM/AM TUNER MODULE

SEMICONDUCTORS

IC201	BA1451F
IC202	LC72131MD
Q201, Q204, Q205	2SC2412K
Q202	DTA124ES
Q203	DTC124EK
D201	1SS133
D202	MTZJ5.1C

COILS AND FILTERS

L201 FM DETECTOR COIL	ATE7003
F202 CERAMIC FILTER	ATF-107
F201 CERAMIC FILTER	ATF-119
F203 AM CERAMIC FILTER	ATF1155

CAPACITORS

C206	CCSRCH100D50
C212, C213, C226, C233–C235	CCSRCH101J50
C240	CCSRCH101J50
C231, C232	CCSRCH150J50
C223	CEAT100M50

Mark No.	Description	Part No.
	C229	CEAT101M10
	C224	CEAT1R0M50
	C227	CEAT220M25
	C241	CEAT2R2M50
	C243	CEAT330M16
	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJA1R0M50
	C210	CEJA470M16
	C204, C238, C602	CKSRYB102K50
	C101, C102, C208, C220, C239	CKSRYB103K50
	C242, C601	CKSRYB103K50
	C216, C217	CKSRYB123K50
	C225	CKSRYB153K50
	C201, C205, C209, C214, C230	CKSRYB223K50
	C236, C603	CKSRYB223K50
	C221	CKSRYB224K10
	C202, C222	CKSRYB473K16
	C215	CKSRYB681K50

RESISTORS

	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R243	RS1/10S0R0J
	R103	RS1/10S331J
	R104	RS1/10S391J
	Other Resistors	RS1/16S###J

OTHERS

	CN201 13P CONNECTOR	52044-1345
	BN201 TERMINAL 4P	AKA7003
	SHIELD CASE T	ANK7072
	SHIELD CASE B	ANK7073
	X201 CRYSTAL RESONATOR (7.2000MHz)	ASS1093
	FM FRONT END	AXF7003
	AM RF TUNING BLOCK	AXX7071

H MAIN ASSY

SEMICONDUCTORS

⚠	IC5001 PROTECTOR(400mA)	AEK7004
⚠	IC5004, IC5005 PROTECTOR(3A)	AEK7015
⚠	IC15 PROTECTOR(5A)	AEK7019
⚠	IC13, IC14, IC16 PROTECTOR(10A)	AEK7022
	IC3152	AN4558NS
⚠	IC5071	BA05T
⚠	IC8521	BA25BC0FP
	IC3902	BA4560F
	IC8901	BA6195FP
	IC3001	M62446FP
	IC3151, IC3161, IC3171	NJM4558MD
	IC5501	PDC092A
	IC8531	TC74HCT7007AF
	IC8541	TC74VHC125F
	Q3906	2SA1037K
⚠	Q5072	2SA965
	Q5043, Q5071	2SB1237X
⚠	Q5031, Q5041	2SB1375
	Q5032, Q5042, Q5572	2SC2412K
⚠	Q5073	2SD1859X

Mark No.	Description	Part No.
	Q5501	2SD1859X
⚠	Q5721	2SD1859X
	Q3903, Q3904, Q3919, Q3920, Q5051	2SD2114K
	Q3905	DTA124EK
	Q5553, Q5554	DTA143EK
	Q3251, Q3252	DTC114TK
	Q8922	DTC114YK
	Q3253	DTC124EK
	Q5551, Q5552, Q5571	DTC143EK
⚠	D5010, D5011, D5075, D5080	11ES2
⚠	D5084, D5085	11ES2
	D3901, D5042, D5072, D5078, D508	21SS133
	D5578, D5741	1SS133
⚠	D11, D5005, D5006	D3SBA20(B)
⚠	D12	D5SBA20(B)
	D5083	DAN202K
	D5721	MTZJ11C
	D5081	MTZJ24B
	D5079	MTZJ33A
	D5043	MTZJ4.7A
	D3203, D3204, D5076	MTZJ6.8B
	D5031, D5071	MTZJ7.5B

COILS AND FILTERS

	L5501	LAU220J

CAPACITORS

	C5526 (0.047F)	ACH1246
	C3006–C3008, C5504, C5513–C5516	CCSRCH101J50
	C5573, C8537, C8914	CCSRCH101J50
	C8910–C8913, C8916	CCSRCH221J50
	C9004	CCSRCH331J50
	C8907	CEAL101M10
	C33, C34	CEANP100M35
	C3190, C3905–C3908, C3917, C5043	CEAT100M50
	C5076, C5078, C5571, C5722	CEAT100M50
	C5741, C5742	CEAT100M50
	C5032, C5042, C5045, C5073, C5523	CEAT101M10
	C8522, C8909	CEAT101M10
	C5077	CEAT101M35
⚠	C5010	CEAT101M50
	C5574	CEAT1R0M50
	C5051, C5074, C5075	CEAT220M50
	C3001, C3002	CEAT221M16
	C3157, C3158, C3167, C3168, C3179	CEAT2R2M50
	C5033, C5703	CEAT470M16
	C3901–C3904	CEAT470M25
	C3005, C5072	CEJQ100M16
	C3181, C3183	CFTLA154J50
	C3155, C3156	CFTLA473J50
	C3913, C3914, C5527	CKSRYB102K50
	C3010, C3165, C3166, C3175	CKSRYB103K50
	C3191–C3196, C5510, C5511	CKSRYB103K50
	C5517, C5518, C5524, C5572, C8902	CKSRYB103K50
	C8908, C9003	CKSRYB103K50
	C3141–C3144, C5031, C5041, C5071	CKSRYB104K25
	C5502, C5503, C5525, C8521, C8523	CKSRYB104K25
	C8533, C8543, C8905, C8906, C8915	CKSRYB104K25
	C3911, C3912	CKSRYB221K50
	C3163, C3164, C3171	CKSRYB332K50
	C5079, C5080, C5512, C5519, C8532	CKSRYB473K25

Mark	No.	Description	Part No.
	C8542		CKSRYB473K25
	C3151, C3152		CKSRYB682K50
⚠	C21, C22	(3300µF/63V)	XCH3008
⚠	C31, C32	(3300µF/35V)	XCH3009
⚠	C5006, C5008	(6800µF/16V)	XCH3010

RESISTORS

R3219, R3220		RD1/2PM151J
R5077, R5078, R8533, R8534		RD1/4PU101J
R5075		RD1/4PU102J
R3901, R3902		RD1/4PU121J
R3909, R3910		RD1/4PU470J
R5076		RD1/4PU472J
R5568		RD1/4PU473J
R5031		RD1/4PU821J
R8930		RS1/16S1002F
R8909		RS1/16S1502F
R8914, R8928		RS1/16S2402F
R8927		RS1/16S2701F
R8929		RS1/16S5601F
Other Resistors		RS1/16S###J

OTHERS

CN5501	4P FFC CONNECTOR	52045-0445
CN5701	13P FFC CONNECTOR	52045-1345
CN5509	19P FFC CONNECTOR	52045-1945
CN5511	27P FFC CONNECTOR	52045-2745
CN8503	4P JUMPER CONNECTOR	52147-0410
CN5352	11P PLUG	AKP7058
CN3052, CN5503	15P PLUG	AKP7060
CN3051, CN5209	17P PLUG	AKP7061
CN3001	21P PLUG	AKP7063
	HEAT SINK M	ANH-697
CN5508	3P CONNECTOR POST	B3B-PH-K
CN5011	5P VH CONNECTOR	B5P-VH
CN5012	7P VH CONNECTOR	B7P-VH
	SCREW	BBZ30P080FZK
CN3053	B TO B CONNECTOR 9P	RKP1783
CN3054	B TO B CONNECTOR 15P	RKP1788
	PCB BINDER	VEF1040
CN5507, CN8902		VKN1211
	7P FFC CONNECTOR	
CN8501, CN8502		VKN1627
	B TO B CONNECTOR 30P	
CN8903	8P FFC CONNECTOR	VKN1707
KN5001	EARTH METAL FITTING	VNF1084
X5501	CERAMIC RESONATOR (10MHz)	ASS7034

I F. AMP ASSY

SEMICONDUCTORS

⚠	IC3301	STK413-000
	Q3351, Q3352, Q3651	2SC2240
	Q3701	2SD1858X
	Q3301, Q3302, Q3603	2SD2114K
	Q3772	2SD2144S
	Q3771	DTA124EK
	Q3773	DTA124TK
	Q3703	DTA143EK
	Q3705	DTC123TK
	Q3774	DTC124EK
	D3771	11ES2
	D3351–D3354, D3651, D3653, D3772	1SS133
	D3778	1SS133
	D3705, D3776	DAN217
	D3774, D3775	MTZJ15B/C

COILS AND FILTERS

	L3361, L3362, L3661 (0.7µH)	ATH1004

CAPACITORS

	C3305, C3306, C3312	CCSRCH101J50
	C3309–C3311	CCSRCJ3R0C50
	C3771	CEAT101M16
	C3773	CEAT101M35
	C3772	CEAT4R7M50
	C3601	CEJQNP100M16
	C3301, C3302	CEJQNP2R2M35
	C3307, C3321	CEJQNP330M35
	C3774–C3776	CEJQNP470M16
	C3361–C3364, C3661, C3663	CKSQYB104K50
	C3609	CKSRYB102K50
	C3603	CKSRYB103K50
	C3329	CKSRYB104K25
	C3303, C3304	CKSRYB222K50
	C3322–C3325 (100µF/63V)	XCH3007

RESISTORS

	R3363, R3364, R3663	RD1/2PM4R7J
	R3361, R3362, R3661	RD1/2PMF100J
	R3321, R3322	RD1/4MUF101J
	R3708	RD1/4PU120J
	R3776, R3777	RD1/4PU152J
⚠	R3773	RF1/4PS330J
	R3324–R3329	RS2LMFR22J
	R3351, R3352, R3651	RS3LMFR22J
	Other Resistors	RS1/16S###J

OTHERS

	CN3301 17P SOCKET	AKP7072
	CN3772 2P TOP POST	B2B-EH
	CN3302, CN3304	RKP1821
	B TO B CONNECTOR 9P	

J R. AMP ASSY

SEMICONDUCTORS

⚠	IC3021	NJM7812FA
⚠	IC3007	NJM7912FA
⚠	IC3401	STK402-240
	Q3021	2SB1237X
	Q3451, Q3452, Q3551, Q3816, Q3817	2SC2412K
	Q3702	2SD1858X
	Q3401, Q3402, Q3501	2SD2114K
	Q3813, Q3814	DTA123JS
	Q3704, Q3815, Q3818	DTA143EK
	Q3706	DTC123TK
	Q3811, Q3812, Q3819	DTC143EK
	D3013–D3018, D3031–D3033	11ES2
	D3022, D3451–D3454, D3551, D3553	1SS133
	D3703	DAN217
	D3021	MTZJ15B
	D62	MTZJ5.1B

COILS AND FILTERS

Mark No.	Description	Part No.
	L3461, L3462, L3561 (1µH)	ATH-133
CAPACITORS		
	C3409, C3410, C3509	CCSRCJ3R0C50
	C3012, C3022, C3407, C3408, C3507	CEJQ100M35
	C3812, C3813	CEJQ101M10
	C3423, C3424	CEJQ101M35
	C3431, C3434	CEJQ220M25
	C3401, C3402, C3501	CEJQ2R2M50
	C3023, C3811, C62	CEJQ470M16
	C3425, C3461–C3464, C3561, C3563	CKSRYB104K25
	C3405, C3406, C3505	CKSRYB221K50
	C3403, C3404, C3503	CKSRYB222K50
	C3011, C3021	CKSRYF104Z50
RESISTORS		
	R62	RD1/2PM221J
	R3461, R3462, R3561	RD1/2PMF100J
	R3421, R3422	RD1/4MUF101J
	R3707	RD1/4PU220J
	R3463, R3464, R3563	RD1/4PU4R7J
	R3451, R3452, R3551	RS2LMFR22J
	Other Resistors	RS1/16S###J
OTHERS		
	CN3501 15P SOCKET	AKP7071
	PCB BINDER	DEF1012
	CN3404 B TO B CONNECTOR 7P	RKP1819
	CN3502 B TO B CONNECTOR 15P	RKP1827

K SPEAKER ASSY

SEMICONDUCTORS

	D3361, D3371, D3372, D3461	1SS133

SWITCHES AND RELAYS

	RY3361, RY3362, RY3461	XSR3002

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	3401 SPEAKER TERMINAL 4-P	AKE7079
	CN3405 B TO B CONNECTOR 7P	RKP1781
	CN3305 B TO B CONNECTOR 9P	RKP1783
	CN3303 SPEAKER TERMINAL 8-P	XKE3016

L CONNECT ASSY

SEMICONDUCTORS

	IC5352	AN4558NS
	IC5231	BU4052BCF
	IC5351	LA7139M
	IC5104	TC7WU04F
	Q5351	2SA1037K
	Q5271, Q5272	2SD2114K
	Q5273	DTA124EK
	Q5231, Q5232	DTC124EK
	D5252	1SS355

COILS AND FILTERS

	F5101 CHIP SOLID INDUCTOR	VTF1096
	L5379 CHIP BEADS	VTL1087
	L5201, L5202, L5205, L5207, L5208	VTL1112
	L5211, L5271, L5272, L5280 CHIP BEADS	VTL1112

Mark No.	Description	Part No.
CAPACITORS		
	C5106	CCSRCH100D50
	C5201–C5204, C5207–C5210	CCSRCH101J50
	C5271, C5272	CCSRCH101J50
	C5371, C5379	CCSRCH331J50
	C5354	CEAT101M16
	C5356	CEAT221M16
	C5372, C5380	CEAT471M6R3
	C5212–C5215, C5239, C5240	CEJQ100M35
	C5105, C5231, C5232	CEJQ470M16
	C5229, C5230, C5233, C5234	CKSRYB103K50
	C5244–C5246	CKSRYB103K50
	C5101, C5103, C5104, C5351–C5353	CKSRYB104K25
	C5357, C5358, C5381	CKSRYB104K25
RESISTORS		
	All Resistors	RS1/16S###J
OTHERS		
	JA5201 PIN JACK(6P)	AKB7050
	CN5372 4P MINI DIN SOCKET	AKP7008
	CN5371 11P SOCKET	AKP7069
	CN5208 17P SOCKET	AKP7072
	CN5207 3P CONNECTOR POST	B3B-PH-K
	JA5373 PIN JACK(2P)	XKB3038

M B TO B ASSY

OTHERS

	CN5353 11P PLUG	AKP7058
	CN5210 17P PLUG	AKP7061
	CN5354 11P SOCKET	AKP7069
	CN5211 17P SOCKET	AKP7072

N DSP ASSY

SEMICONDUCTORS

	IC3751	AK4527BVQ
	IC3851	IS61C256AH-15J
	IC8801	LC89056W-E
	IC8701, IC8703, IC8705	NJM4558MD
	IC3801	YSS912C
	Q8709–Q8714	2SD2114K
	Q8715, Q8716, Q8718	DTA124EK
	Q8717	DTC124EK
	D8703	DAN202K
	D8701, D8702	DAP202K

COILS AND FILTERS

	F3731–F3736, F3801, F3802, F3851	DTF1064
	F8801, F8802 CHIP BEAD	DTF1064
	F3751, F3752 CHIP BEAD	DTF1067

CAPACITORS

	C3807, C3810, C3814, C3817, C3821	CCSRCH101J50
	C3825, C3828, C3854, C8825	CCSRCH101J50
	C3803, C3804, C8816, C8817	CCSRCH200J50
	C3820	CCSRCH221J50
	C8709, C8710	CCSRCH470J50
	C3811	CCSRCH471J50
	C8721, C8722, C8733	CCSRCH820J50
	C8711, C8712, C8723, C8724, C8735	CEAL100M16
	C8741, C8743, C8744, C8761	CEAL100M16
	C8763–C8765	CEAL100M16

Mark	No.	Description	Part No.
	C3856		CEAL101M6R3
	C3705, C3706		CEAL220M16
	C3709, C3710, C3752, C3756, C3759		CEAL470M6R3
	C3851		CEAL470M6R3
	C8736, C8742, C8745, C8746, C8762		CEAT100M50
	C8766		CEAT100M50
	C3801, C8801		CEAT101M10
	C3802		CEAT220M25
	C8812, C8915, C8917		CEAT470M25
	C3783–C3785		CKSRYB102K50
	C3732, C3734, C3765, C3786		CKSRYB103K50
	C8701, C8702, C8751, C8753		CKSRYB103K50
	C8755–C8758, C8808, C8811		CKSRYB103K50
	C3711, C3712, C3754, C3755, C3758		CKSRYB104K25
	C3833, C3834, C3855, C8802, C8803		CKSRYB104K25
	C8805, C8806, C8809, C8810, C8814		CKSRYB104K25
	C8818, C8820, C8821, C8916, C8918		CKSRYB104K25
	C8715, C8716, C8727		CKSRYB122K50
	C8713, C8714, C8725		CKSRYB152K50
	C3707, C3708		CKSRYB222K50
	C8728		CKSRYB224K10
	C8703, C8704, C8734		CKSRYB472K50
	C3805, C3809, C3813, C3816, C3819		CKSRYB473K25
	C3822, C3824, C3827, C3830, C3831		CKSRYB473K25
	C3852		CKSRYB473K25
RESISTORS			
	R3751, R3757, R3809, R3813, R3822		RAB4C101J
	R3827, R3830, R8801, R8825		RAB4C101J
	R3817		RAB4C102J
	Other Resistors		RS1/16S###J
OTHERS			
	CN3701	15P SOCKET	AKP7071
	CN3702	21P SOCKET	AKP7074
	CN3703	CONNECTOR POST	S3B-PH-K
	X3801, X8801	(12.288MHz) CRYSTAL RESONATOR	VSS1140

O DISPLAY ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC5801		HEF4794BT
	Q5803, Q5804		2SC2412K
	Q5802		DTA143EK
	D5801, D5803–D5808		SLR-343MC(NPQ)
	D5809		SLR-343VC(NPQ)
CAPACITORS			
	C5825–C5827		CCSRCH101J50
	C5902		CEAL470M6R3
	C5802		CKSRYB104K25
	C5833, C5834		CKSRYB471K50
	C5901		CKSRYB473K25
RESISTORS			
	All Resistors		RS1/16S###J
OTHERS			
	CN5807	4P CONNECTOR	52044-0445
	CN5801	19P CONNECTOR	52044-1945
	CN5802	27P FFC CONNECTOR	52044-2745
	CN5806	4PJUMPER CONNECTOR	52151-0410
	CN5803	9PJUMPER CONNECTOR	52151-0910
	5901	REMOTE RECEIVER UNIT	GP1UM27XK
	FL HOLDER		VNF1085
	V5801	FL TUBE	XAV3011

P JOG ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S5801		XSX3007
CAPACITORS			
	C5801		CKSRYB102K50
	C5891		CKSRYB104K25
RESISTORS			
	All Resistors		RS1/16S###J
OTHERS			
	3P CABLE HOLDER		51048-0300
	4P CABLE HOLDER		51048-0400
	J 5806	4P JUMPER WIRE	D20PYY0415E
	KN5801	EARTH METAL FITTING	VNF1084

Q DISC KEY ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S5803–S5810		ASG7013
RESISTORS			
	All Resistors		RS1/16S###J
OTHERS			
	3P CABLE HOLDER		51048-0300
	J 5811	3P JUMPER WIRE	D20PYY0310E

R HP MIC ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S5811		ASG7013
CAPACITORS			
	C5822		CKSRYB104K25
	C5819, C5821		CKSRYB223K50
RESISTORS			
	All Resistors		RS1/16S###J
OTHERS			
	3P CABLE HOLDER		51048-0300
	9P CABLE HOLDER		51048-0900
	JA5802	MINITURE JACK	AKN7005
	J 5804	JUMPER WIRE 9P	D20PYY0915E

S FUNCTION KEY ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S5802, S5812–S5814, S5816–S5818		ASG7013
RESISTORS			
	All Resistors		RS1/16S###J
OTHERS			
	3P CABLE HOLDER		51048-0300
	J 5805	3P JUMPER WIRE	D20PYY0305E

T PRIMARY ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
⚠	IC41		NJM78M56FA
	Q41		2SD1859X

Mark	No.	Description	Part No.
	D42		1SS133
	D44		DAN217
⚠	D41		DF06SA

COILS AND FILTERS

⚠	L1	LINE FILTER	ATF7018

TRANSFORMERS

⚠	T2	STANDBY TRANSFORMER	ATT7049

SWITCHES AND RELAYS

⚠	RY41	POWER RELAY	XSR3004

CAPACITORS

⚠	C1, C3	(0.01µF)	ACE7013
⚠	C42		CEAT102M16
	C41		CEJQ100M35
	C44		CKSRYB104K25

RESISTORS

⚠	R1	(2.2MΩ/ 1/2W)	RCN1080
	R43		RS1/16S102J
	Other Resistors		RD1/4PU###J

OTHERS

	4P CABLE HOLDER		51048-0400
⚠	CN1	2P VH CONNECTOR	B2P3-VH
	J 13	5P JUMPER WIRE	D20PYY0420E
		PCB BINDER	VEF1040
		SCREW PLATE	VNE1948

U INLET ASSY

OTHERS

	H1, H2	FUSE CLIP	AKR7001
⚠	AN1	AC INLET 1P	XKP3042

6. ADJUSTMENT
6.1 TUNER SECTION

■ AM Tuner Section
• There is no adjustment in the AM tuner.

■ FM Tuner Section
• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

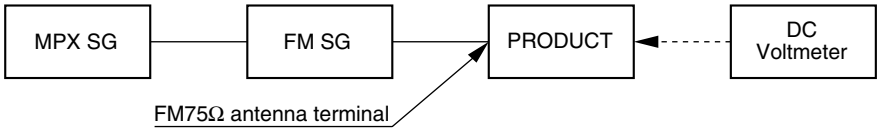


Fig.1 Adjustment Wiring Diagram

G FM/AM TUNER MODULE

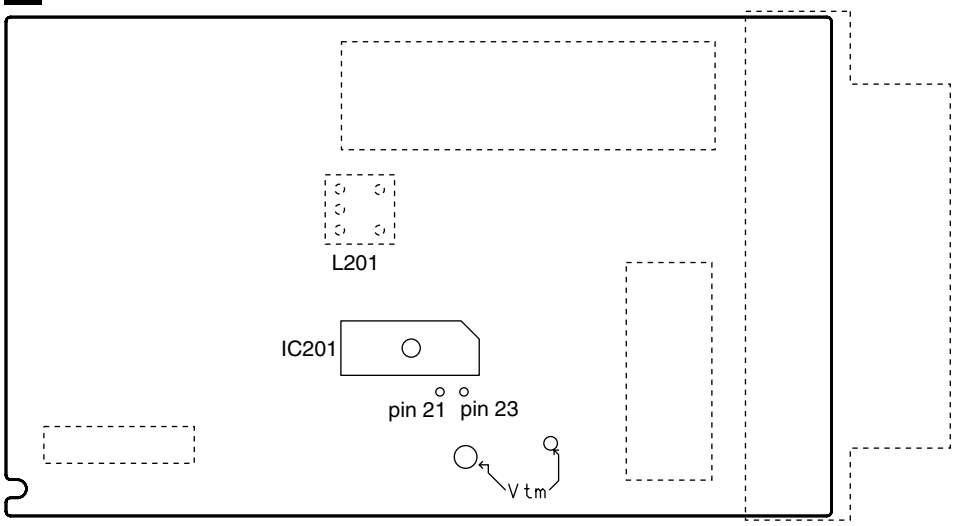


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 SELF-DIAGNOSTIC FUNCTION OF PICKUP DEFECTIVE

Symptom

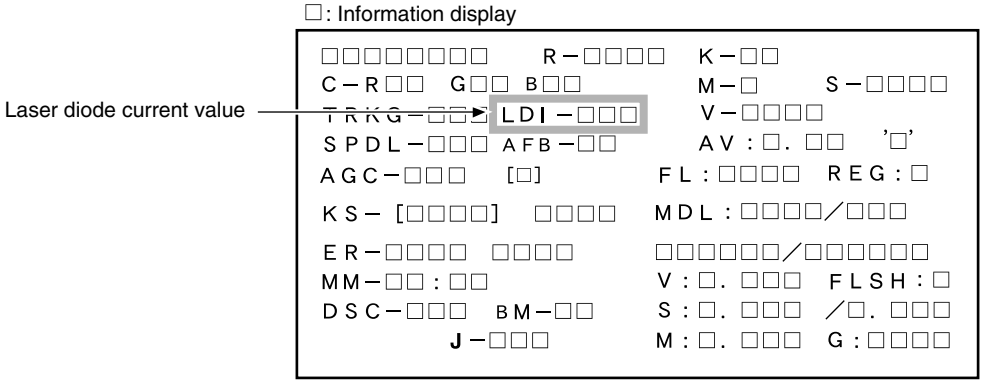
- Indicates "No Disc" in FL display.
- Player does not playback, etc..

Procedure of Self-Diagnosis

① Press the TEST → 1 buttons (of the test mode remote control unit : GGF1067) in the test mode screen, and turn on the laser diode (It light-up for nine seconds.).
② Confirm the indicated value of the laser diode current (LDI).
③ When indicated value is more than 110, pickup is defective. → Release the Traverse Mechanism Assy.

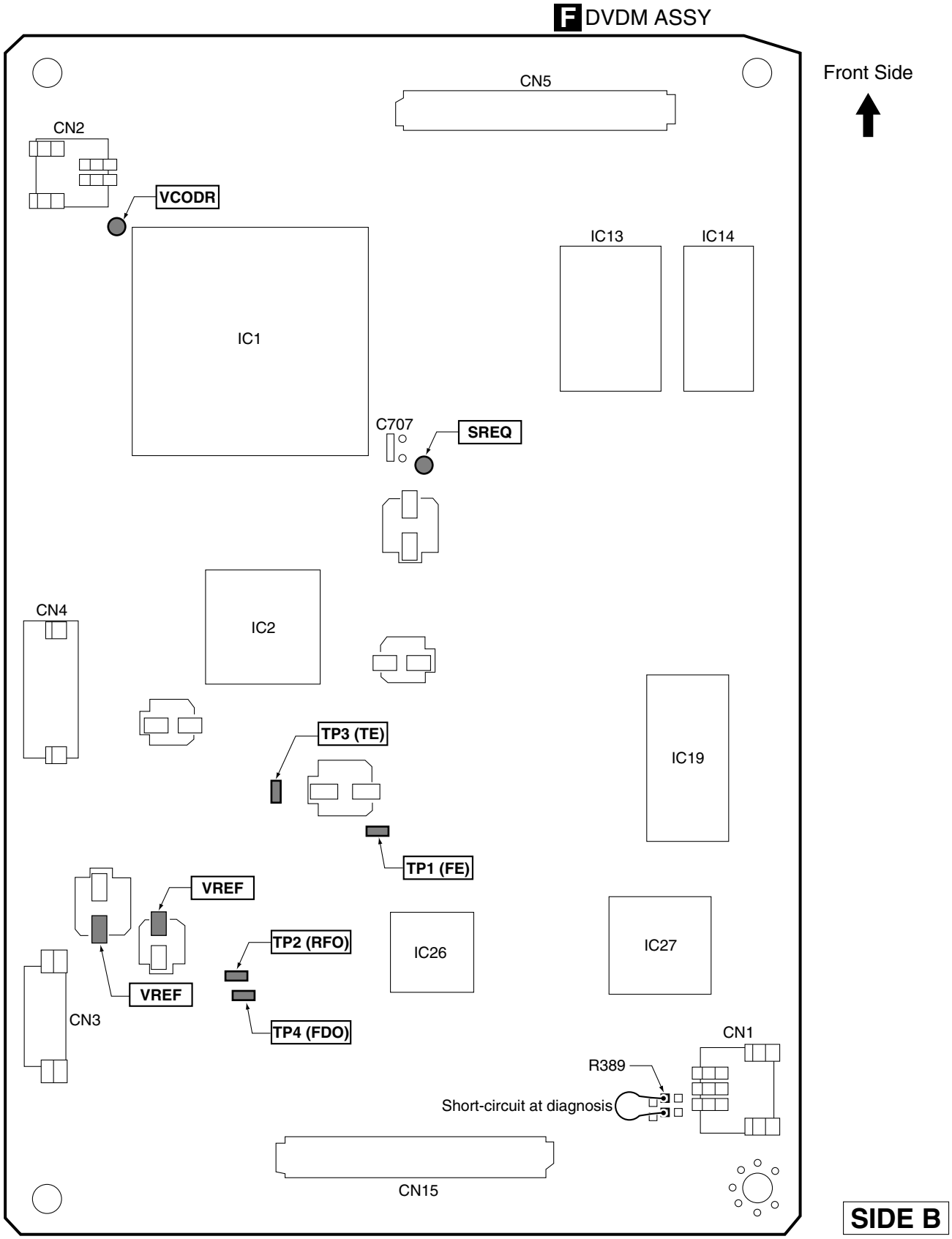
Note : When a DVD disc is played in the test mode, this function is effective.
This function is effective only for DVD pickup (650nm).

Character in bold : Item name
□: Information display



Test Mode Screen Display

7.1.2 TEST POINTS LOCATION

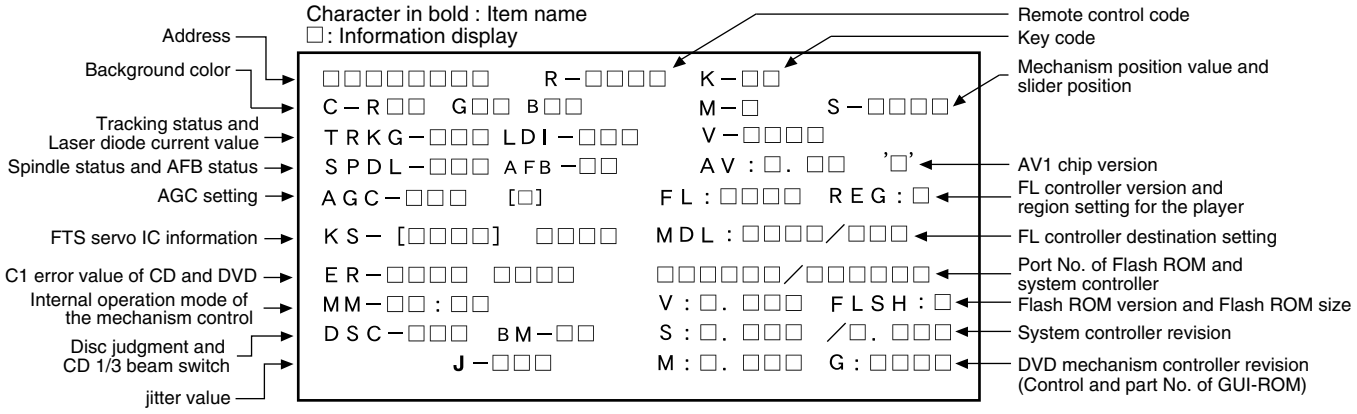


7.1.3 TEST MODE SCREEN DISPLAY

■ TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

• Screen Composition


Character in bold : Item name
□: Information display
Address
Background color
Tracking status and Laser diode current value
Spindle status and AFB status
AGC setting
FTS servo IC information
C1 error value of CD and DVD
Internal operation mode of the mechanism control
Disc judgment and CD 1/3 beam switch
jitter value
□□□□□□□□ R－□□□□ K－□□
C－R□□ G□□ B□□ M－□ S－□□□□
TRKG－□□□ LDI－□□□ V－□□□□
SPDL－□□□ AFB－□□ AV：□. □□ '□'
AGC－□□□ [□] FL：□□□□ REG：□
KS－ [□□□□] □□□□ MDL：□□□□／□□□
ER－□□□□ □□□□ □□□□□□／□□□□□□□
MM－□□：□□ V：□. □□□ FLSH：□
DSC－□□□ BM－□□ S：□. □□□ ／□. □□□
J－□□□ M：□. □□□ G：□□□□
Remote control code
Key code
Mechanism position value and slider position
AV1 chip version
FL controller version and region setting for the player
FL controller destination setting
Port No. of Flash ROM and system controller
Flash ROM version and Flash ROM size
System controller revision
DVD mechanism controller revision (Control and part No. of GUI-ROM)

First Screen Display

Caution :
The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.
It is only a version display part on the lower right of the screen those contents of display change.
ATB : ON/OFF information display and AGC manual setting display deleted with the second generation.
The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted with the third generation becomes LD part is deleted.

• Description of Each Item on the Display

(1) Address indication

The address being traced is displayed in number.
DVD : ID indication (hexadecimal number, 8 digits) [* * * * * * * *]
CD : A-TIME (min. sec.) [0 0 0 0 * * * *]
(Note : For DVDs, decimal-number indication is possible.)

(2) Code indication of the remote control unit [R – * * * *]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

(3) Key code indication for the main unit [K – * *]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

(4) Background color indication [C – R* * G* * B* *]

(5) ① Tracking status [TRKG – *]**

Tracking on [ON]
Tracking off [OFF]

② **Laser diode current value [LDI – ***]**

(6) ① Spindle status [SPDL – * * *]

Spindle accelerator and brake, free-runnimg	[A/B]
FG servo	[FG]
Rough, velocity phase servo	[SRV]
Offset addition, rough, velocity phase servo	[O_S]

② **AFB status [AFB – * *]**

ON	[ON]
OFF	[OFF]

(7) Mechanism position value [M – *]

Position code	[1] to [7]

(8) Slider position [S – * * * *]

CD TOC area	[IN]
CD active area	[CD]

(9) AGC setting [AGC – * *]

AGC on	[AGC-ON]
AGC off	[AGC-OFF]

(10) Output video system [V – ＊＊＊＊]

NTSC system	[NTSC]
PAL system	[PAL]
Auto-setting	[AUTO]

(11) FTS servo IC information

DSP coefficient indication [KS – [＊＊＊＊] ＊＊＊＊]
Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

(12) Error rate indication

① C1 error value of CD [ER – C1 ＊＊＊＊]
② C1 error value of DVD [ER – ＊＊＊＊ ＊＊＊＊]

(13) Internal operation mode of mechanism controller [MM – ＊＊ : ＊＊]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

(14) ① Disc sensing [DSC – ＊＊＊]

The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]

② CD 1/3 beam switch [BM – ＊＊]

(15) Jitter value [J – ＊＊]

CD is effective only in the jitter value.

(16) Version of the AV-1 chip [AV : ＊ . ＊＊' ＊']

(17) ① Version of the FL controller [FL : ＊＊＊＊]

② Region setting of the player [REG : ＊]

Setting value [1] to [6]

(18) Destination setting of the FL controller [MDL : ＊＊＊＊ / ＊＊＊]

For characters in front represent the type of model :
There characters that follow represent the destination code.
J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB, WY : /WY

(19) The part number of the flash ROM and system controller [＊＊＊＊＊＊ / ＊＊＊＊＊＊＊]

① Part number of the flash ROM <Front>
(Example) VYW1536-A = W1536A
(Example) PD6256A9 = 6256A9
② Part number of the system controller <Rear>
(Example) PD3381T1 = 3381T1

(20) ① Version of the flash ROM [V : ＊ . ＊＊＊]

② Flash ROM size [FLSH = ＊]

(21) Revision of the system controller [S : ＊ . ＊＊＊ / ＊ . ＊＊]

① Revision number of the external ROM part (flash ROM) of the system controller <Front>
② Revision of the internal ROM part of the system controller <Rear>

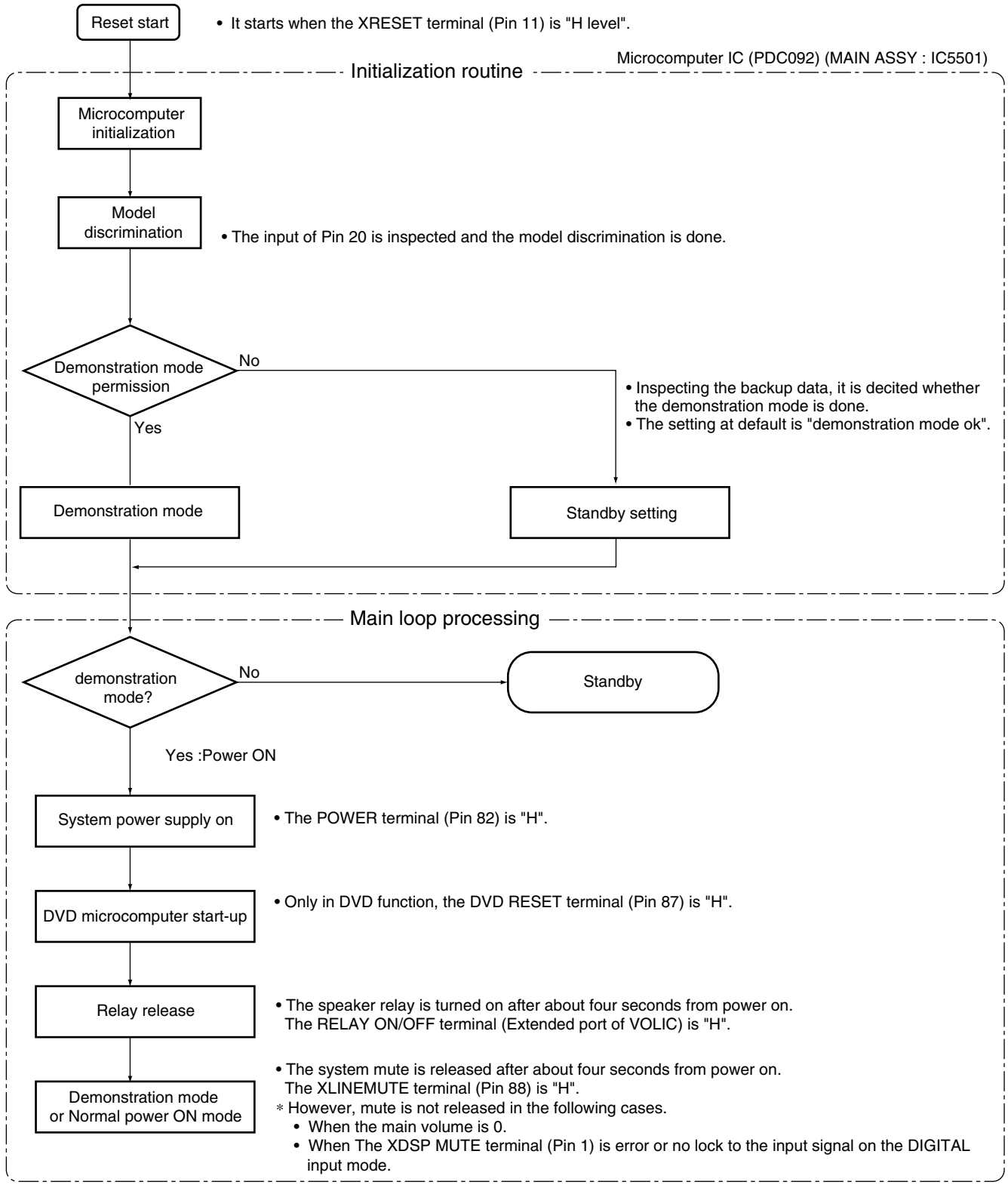
(22) Revision of the DVD mechanism controller [M : ＊ . ＊＊＊]

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

(23) Control and part numbers of the GUI-ROM [GUI : ＊＊＊＊]

No GUI model displays as "—— / ——".
OEM model displays the part number of GUI-ROM
[GUI : ＊＊＊＊]

7.1.4 POWER ON SEQUENCE


Reset start
• It starts when the XRESET terminal (Pin 11) is "H level".
Microcomputer IC (PDC092) (MAIN ASSY : IC5501)
Initialization routine
Microcomputer initialization
Model discrimination
• The input of Pin 20 is inspected and the model discrimination is done.
Demonstration mode permission
No
Yes
• Inspecting the backup data, it is decited whether the demonstration mode is done.
• The setting at default is "demonstration mode ok".
Demonstration mode
Standby setting
Main loop processing
demonstration mode?
No
Standby
Yes :Power ON
System power supply on
• The POWER terminal (Pin 82) is "H".
DVD microcomputer start-up
• Only in DVD function, the DVD RESET terminal (Pin 87) is "H".
Relay release
• The speaker relay is turned on after about four seconds from power on.
The RELAY ON/OFF terminal (Extended port of VOLIC) is "H".
Demonstration mode or Normal power ON mode
• The system mute is released after about four seconds from power on.
The XLINEMUTE terminal (Pin 88) is "H".
∗ However, mute is not released in the following cases.
• When the main volume is 0.
• When The XDSP MUTE terminal (Pin 1) is error or no lock to the input signal on the DIGITAL input mode.

∗ If the pulse is not input to the AC terminal (Pin 26) about 60ms, during the memory backup mode, the microcomputer does not process all.

∗ It returns from the memory backup mode when there is a rising up input at the XRESET terminal (Pin 11).

7.1.5 TROUBLE SHOOTING

Microcomputer troubleshooting

Symptom of problem	Thought cause	Check method
• The power supply does not enter . • The standby LED lights even if the POWER key is pushed.	• The microcomputer is not reset.	• Whether terminal RESET (11Pin) is "H" is confirmed. The operation of the RESET circuit is confirmed if not becoming "H".
	• The AC pulse is not input.	• Whether the AC pulse is input to AC input terminal (26Pin) is confirmed. If the AC pulse is not input, the AC pulse generation circuit is confirmed.
	• The oscillation circuit of the microcomputer does not oscillate.	• The microcomputer or the oscillation circuit is broken. The microcomputer or the oscillation circuit is exchanged.
• It enters the state of POWER OFF soon even in case of the POWER ON.	• If the function is DVD, the 3.3DETECT input is 2.9V or less. been pushed.	• If the voltage of the 3.3DETECT (13Pin) terminal of the microcomputer is 2.9V or less, the voltage is adjusted to 2.9V or more.
• DVD does not operate at all. • Time is not displayed in FL DISPLAY at the DVD function.	• It does not communicate with the DVD microcomputer.	• Whether terminal (27Pin, 83Pin, 98-100Pin) for the communication with the DVD microcomputer does the communication operation is confirmed. If the communication operation is not done, whether the B to B connector etc. are disconnected is confirmed. • Whether "H" is output to terminal DVDRESET (87Pin) is confirmed.
• The operation key is not accepted at all.	• It is recognized that other KEY has already	• When KEY is not pushed, whether KEY input terminal (18Pin, 22Pin) is 5V is confirmed. If the KEY input terminal is not 5V, whether KEY SW on the line breaks is confirmed.

7.1.6 ERROR CODE

Error codes that are displayed on the FL display without using the remote control unit

FL Display	Possible causes	Operation of the unit
AV1 VER	AV-1 chip is not a match with the program of system controller	The sound may not produced with the specific audio.
CPU AERR	CPU address error (Hardware is unusual.)	No operation
DMA AERR	DMA address error (Hardware is unusual.)	No operation
FLASH ID	Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation	No operation
FLASH WRP	Write protect error of the flash ROM	No operation
FLASH SIG	Difference in part number of the flash ROM (When the ROM which couldn't be used was used.)	No operation
FLASH SUM	Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.)	No operation
FLASH SIZE	Size error of the flash ROM (Use 4 or 8 M-bit.)	No operation
ILLGAL	The system controller fetched a code other than an operation code (Hardware is unusual.)	No operation
RESERVE	Undefined interrupt (Hardware is unusual.)	No operation
SLOT	Inappropriate slot command issued (Hardware is unusual.)	No operation
DVD ERR	This display appears when the terminal of microcomputer PIN.No13 becomes 2.9V or less and the set enters the standby state.	No operation
AMP FAN ERR	display appears when the terminal of microcomputer PIN.No21 becomes 1-3V, and the set enters the state of the standby.	No operation
PT FAN ERR	display appears when the terminal of microcomputer PIN.No21 becomes 3-5V, and the set enters the state of the standby.	No operation

Error codes that are displayed on the FL display by using the remote control unit (Mechanism controller error)
To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of center of the FL display
To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD : Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD : Stops, DVD : Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
38	Disc-type-sensing error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occure excepting C5 error. However, when the focus error "33" was occured continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	The spindle could not converge into within ± 12% of the target FG rotation speed within 10 seconds after spindle kick. The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds. The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. (FG timeout)
49	Spindle PLL transition timeout	After the second times after startup, it doesn't become the number of the target rotation within five seconds. Detects the abnormal high-speed or low-speed rotations. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or	Stop
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 mS).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 mS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 mS during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retring the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. It timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occured eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

Error codes that are displayed on the FL display by using the remote control unit (Device error)
To display : ESC + DISPLAY + DISPLAY ; Location of the display : At the two digits of left of the FL display

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
bit3=1 08 etc.	AV1 access error (read, write NG)			No operation or it becomes debugging indication if the power is able to ON.
bit2=1 04 etc.	MY CHIP access error			
bit1=1 01 etc.	SRAM access error			

7.1.7 DISASSEMBLY

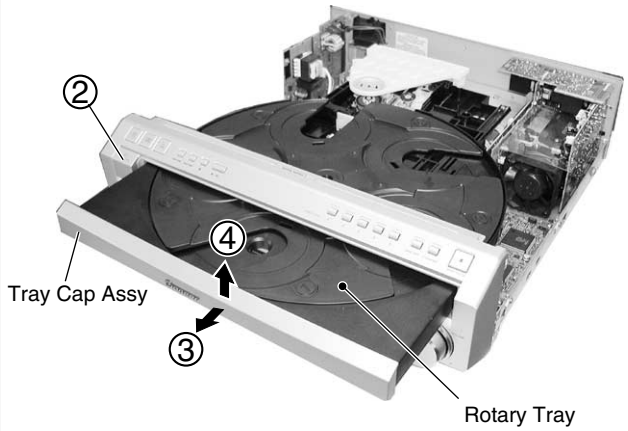
DIAGNOSIS OF PCBs

Note

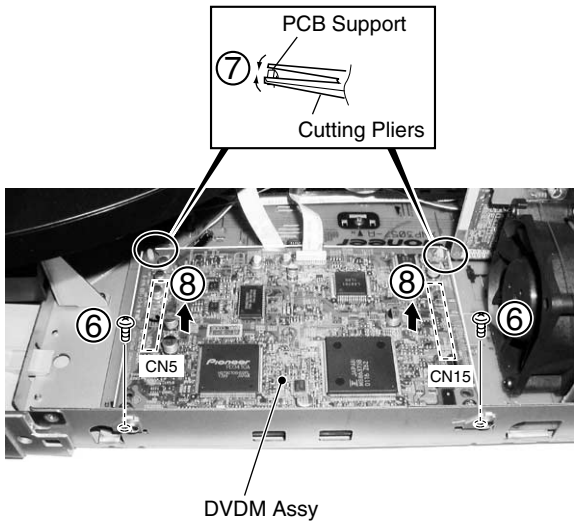
When diagnosing the unit, be sure to use two connection cables for service. (Part No : GGD1228)

DVDM Assy

① Remove the Bonnet Case (Screws × 11)
② Power ON (⏻)
③ Tray Open (⏏ OPEN/CLOSE)
④ Remove the Tray Cap Assy

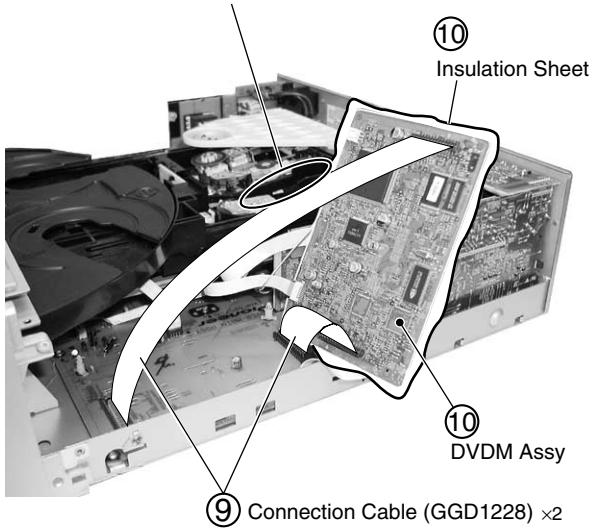


⑤ Power OFF (Pull out the Power Cord from the outlet.)
⑥ Remove two Screws
⑦ Unhook two PCB Supports
⑧ Remove the DVDM Assy (Connectors × 2)

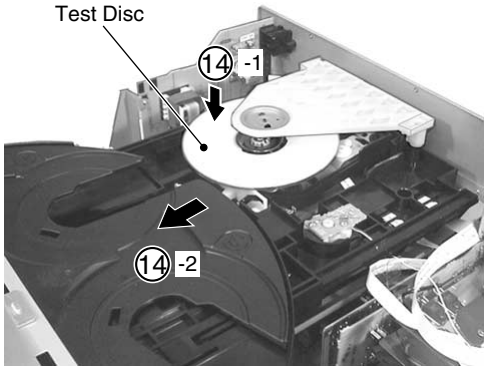


⑨ Connect two Connection Cables for Service (GGD1228)
⑩ Stand the DVDM Assy as figure below.
(In this time, put an insulation Sheet between the DVDM Assy and main unit not to short-circuit.)

Attention: Be carefull not to put the flexible cables when closing the tray



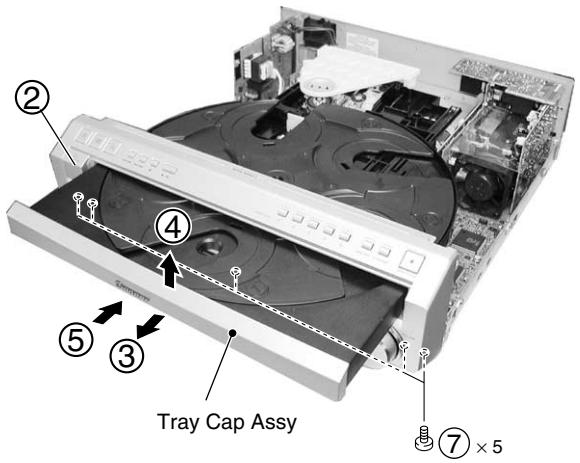
⑪ Set the Test Disc
⑫ Put the Power Cord in the outlet
⑬ Power On → Tray close (Automatically)
⑭ Press the EXCHANGE Button
(clamp the Test Disc → Tray Open)



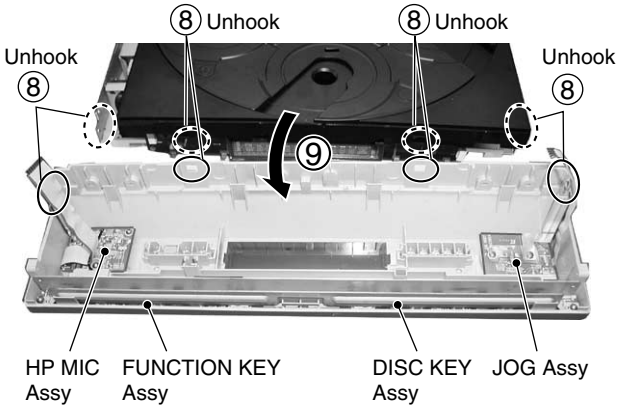
Diagnosis

Front Panel Section

① Remove the Bonnet Case (Screws × 11)
② Power ON (⏻)
③ Tray Open (⏏ OPEN/CLOSE)
④ Remove the Tray Cap Assy
⑤ Close the tray
⑥ Power OFF (Pull out the Power Cord from the outlet.)
⑦ Remove five Screws



⑨ Remove the Front Panel Section

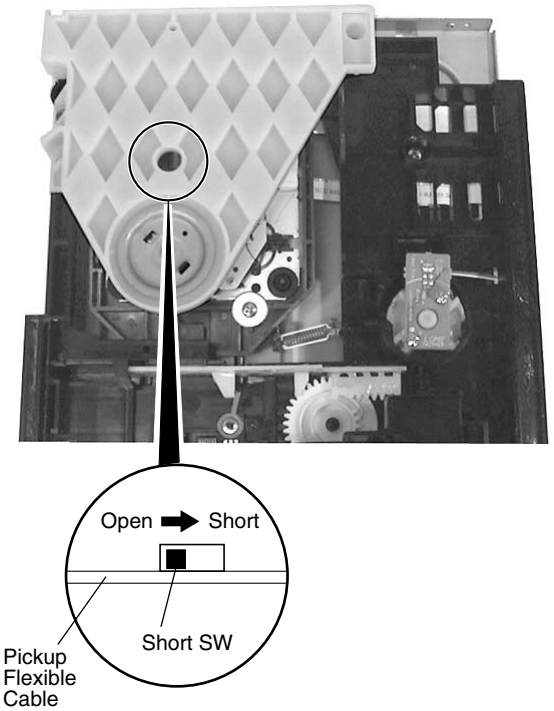


⑩ Put the Power Cord in the outlet
⑪ Power ON

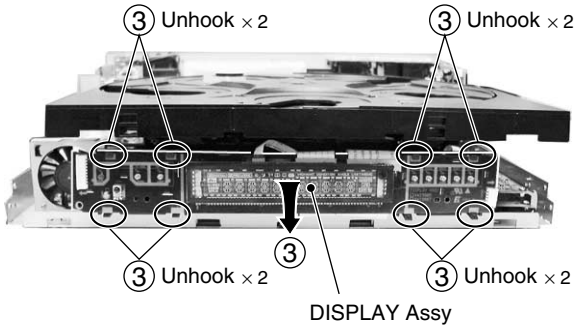
Diagnosis

Table Mechanism Section

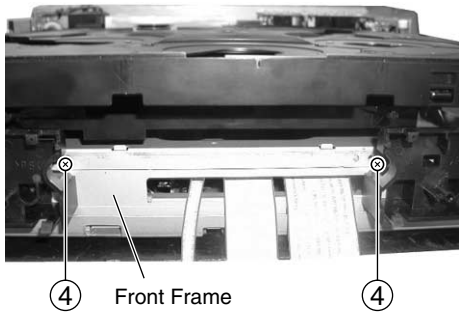
① Turn the Pickup Short SW to Short side.



② Remove the Front Panel section
③ Remove DISPLAY Assy

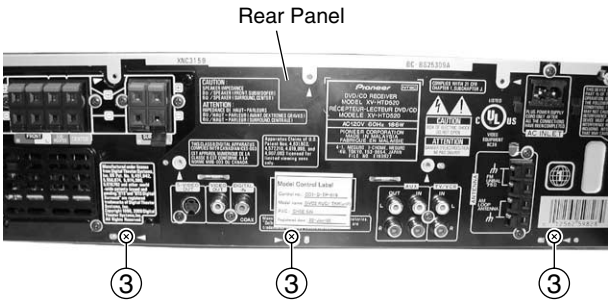


④ Remove two Screws

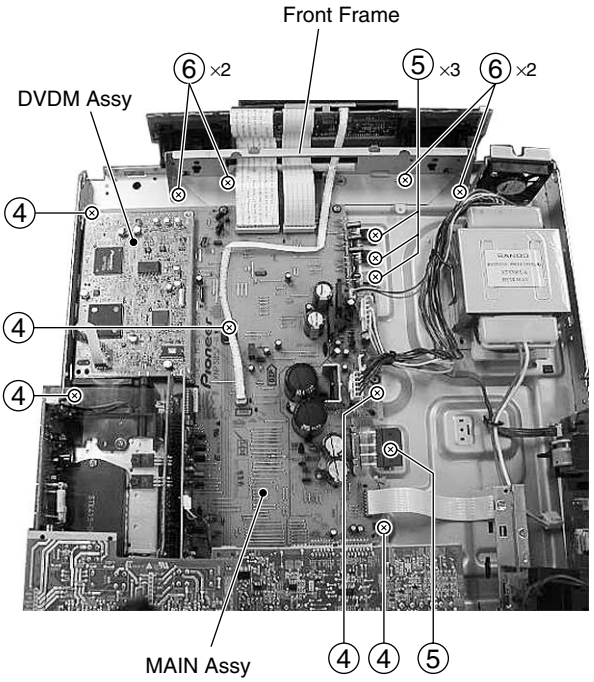


MAIN Assy

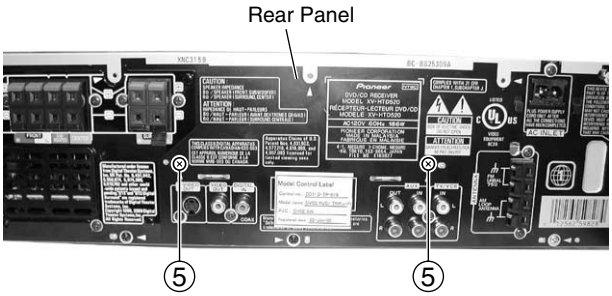
① Remove the Front Panel Section
② Remove the Table Mechanism Section
③ Remove three Screws



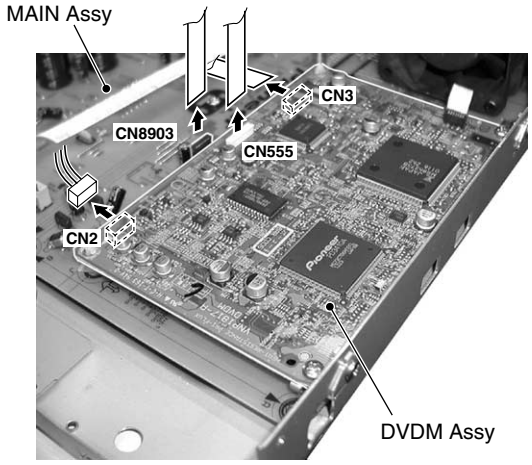
④ Remove five Screws
⑤ Remove four Screws
⑥ Remove four Screws



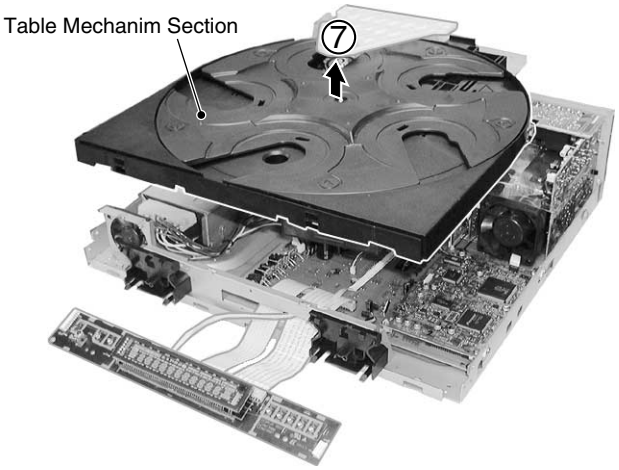
⑤ Remove two Screws



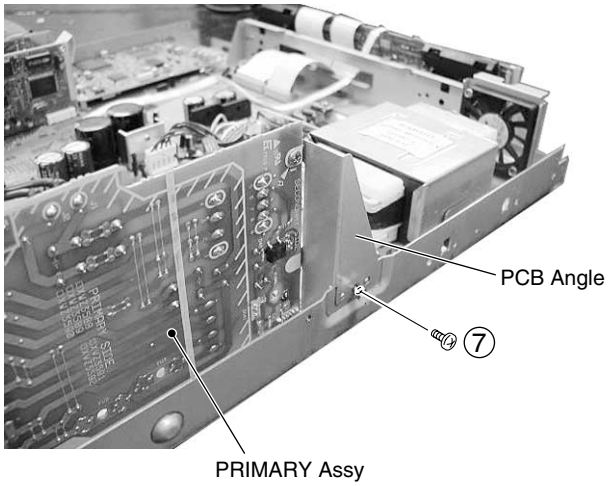
⑥ Remove three Flexible Cables and Connector Assy



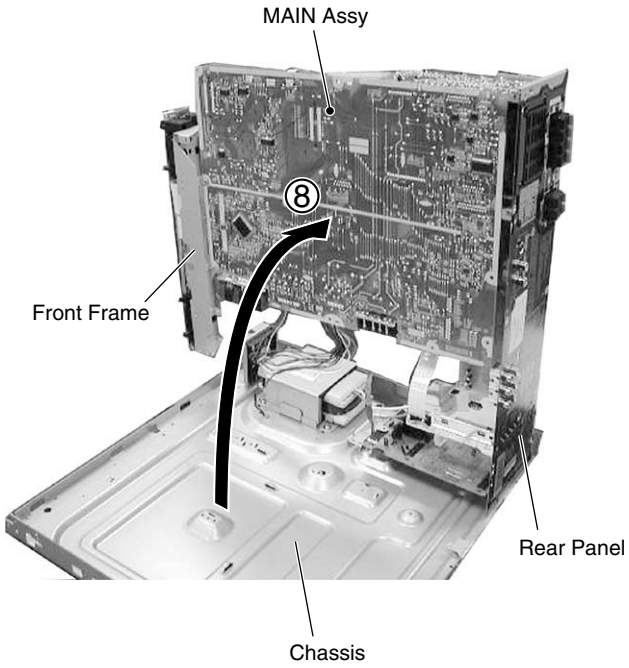
⑦ Remove the Table Mechanism Section



⑦ Remove one Screw

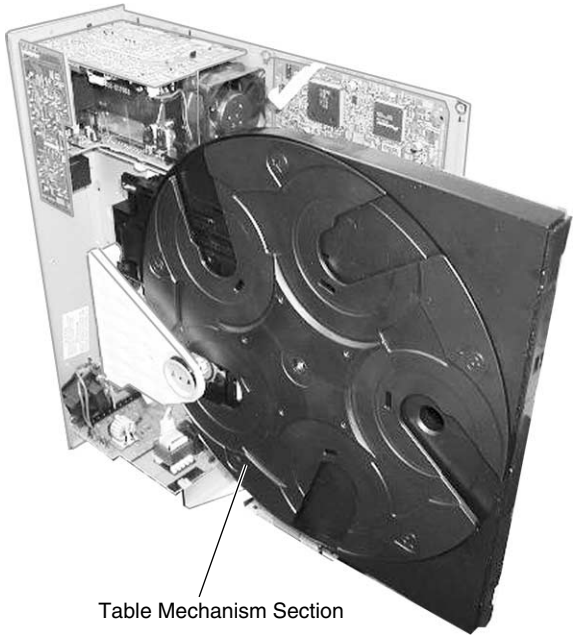


⑧ Lift the MAIN Assy from the Chassis in the state that installed Rear Panel and Front Frame.



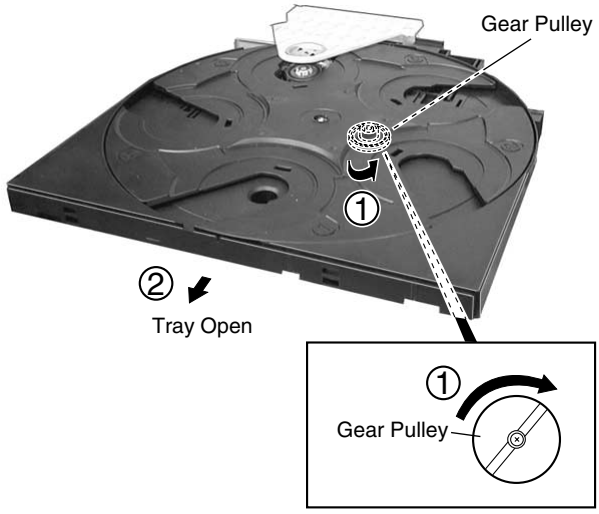
⑨ Replace the Table Mechanism Section. (Screws ×4)

Caution: Stand the main unit after the Test Disc clamped.



Diagnosis

● **How to Open the Tray by Manual Operating**



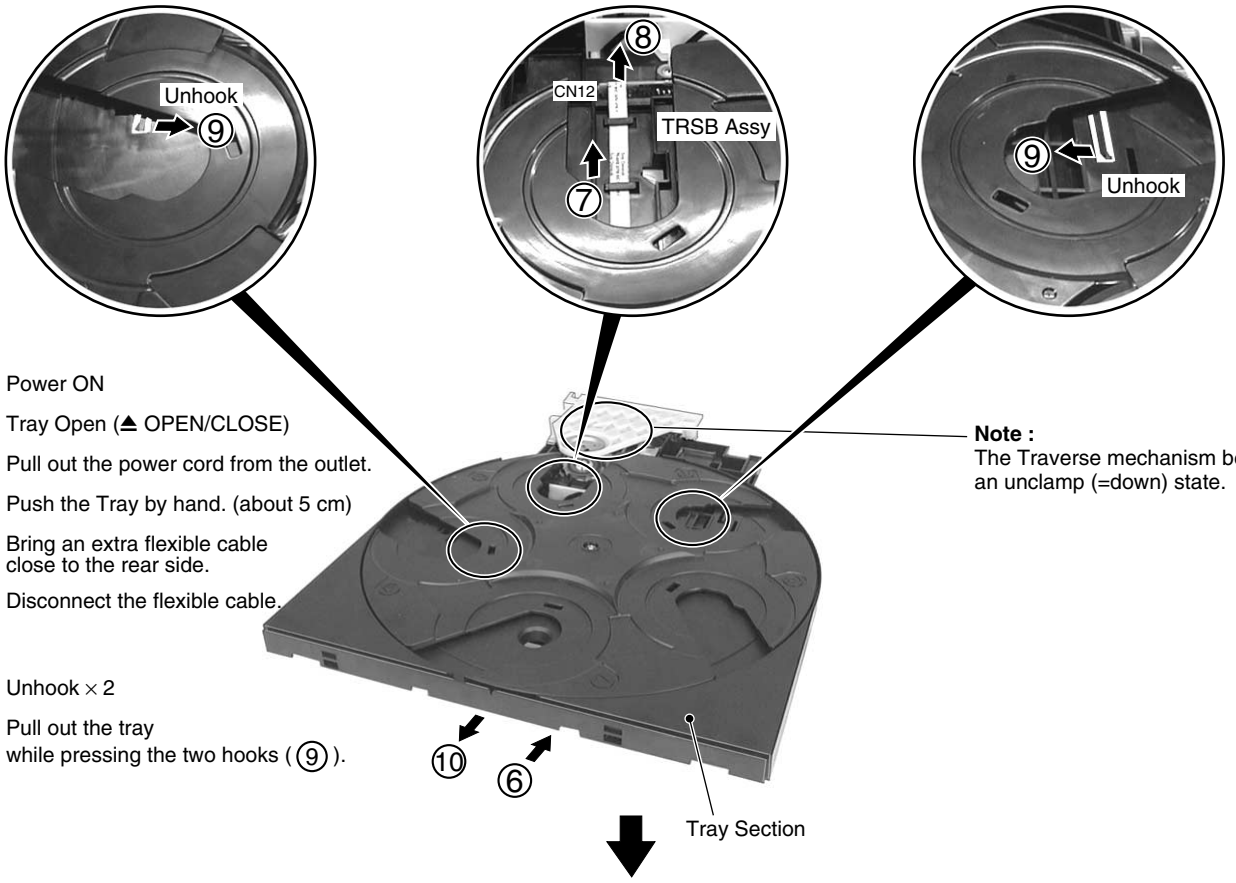
③ If the tray moved toward the front about 2 or 3 cm, pull out the tray by hands.

TRAVERSE MECHANISM ASSY-S

● Disassembly

① Remove the Bonnet (Screws × 11)

② Remove the Tray Cap
Remove the Front Panel Section (Refer to " ■ FRONT PANEL SECTION")



③ Power ON

④ Tray Open (▲ OPEN/CLOSE)

⑤ Pull out the power cord from the outlet.

⑥ Push the Tray by hand. (about 5 cm)

⑦ Bring an extra flexible cable close to the rear side.

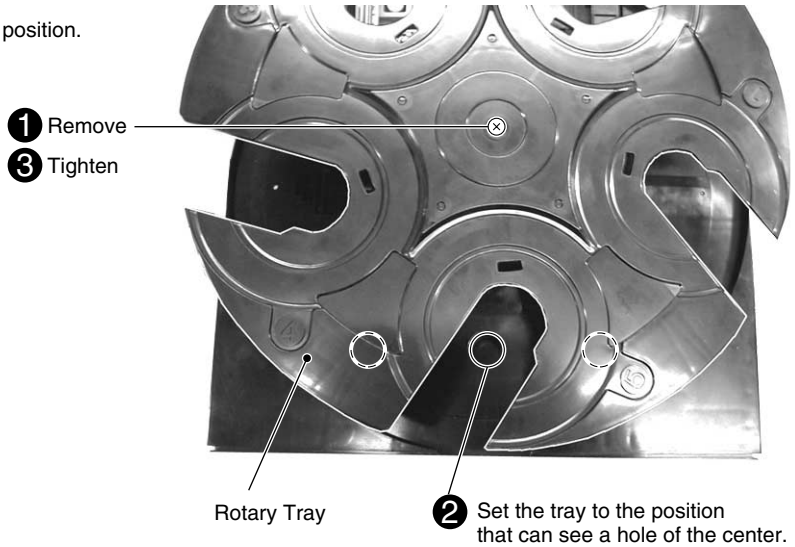
⑧ Disconnect the flexible cable.

⑨ Unhook × 2

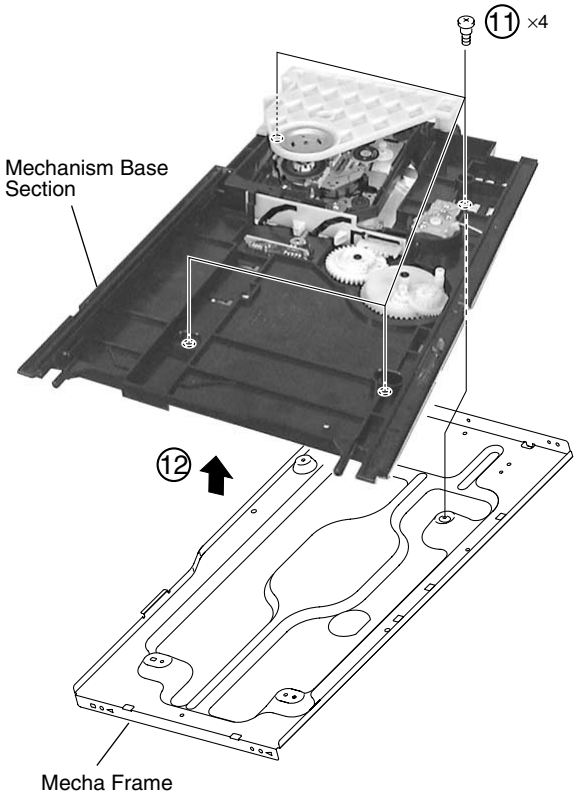
⑩ Pull out the tray while pressing the two hooks (⑨).

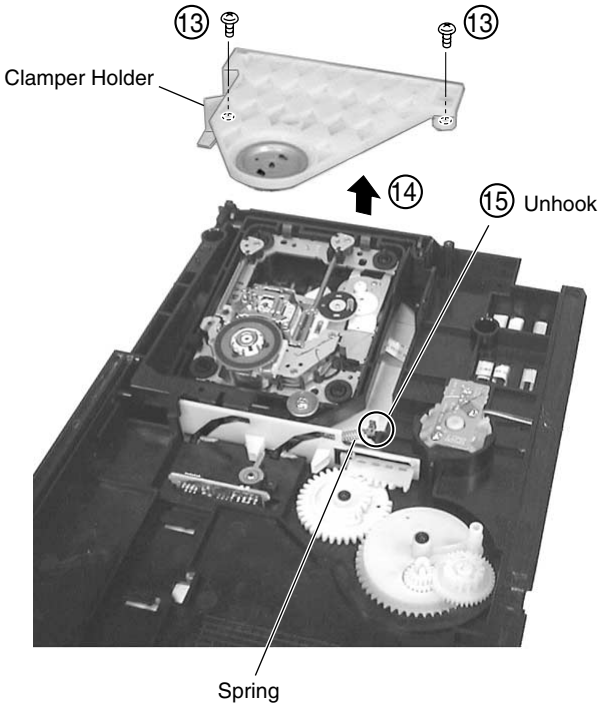
● When Tray Cannot Pull Out

Tray cannot pull out that is not at a position of home position.
(When two hooks (⑨) hide under the Rotary Tray and can not pull out the tray.)
In that case, set the tray in the following procedures.

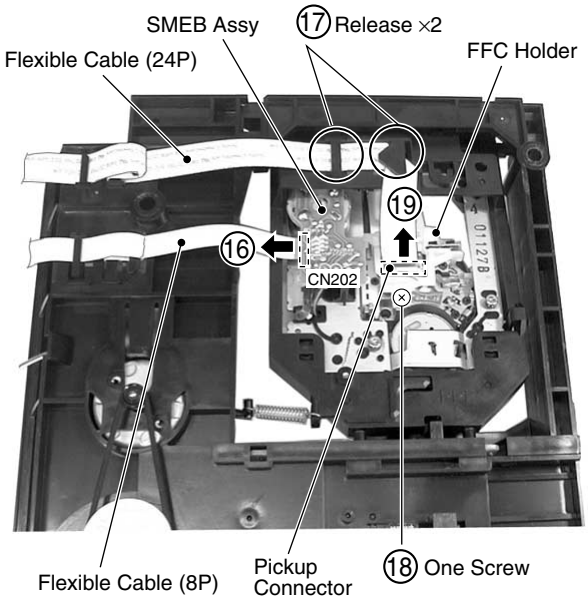


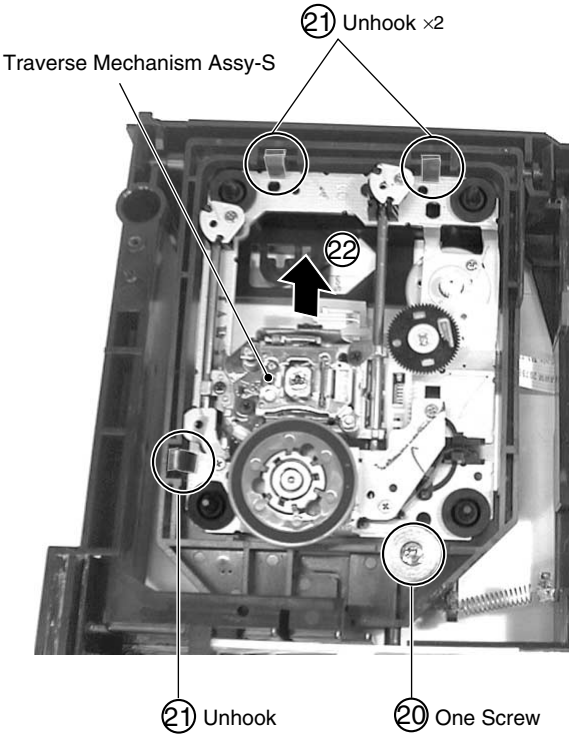
Note :
Do not need to match with Disc No. (1 to 5) when returns the tray.
Detect it automatically.





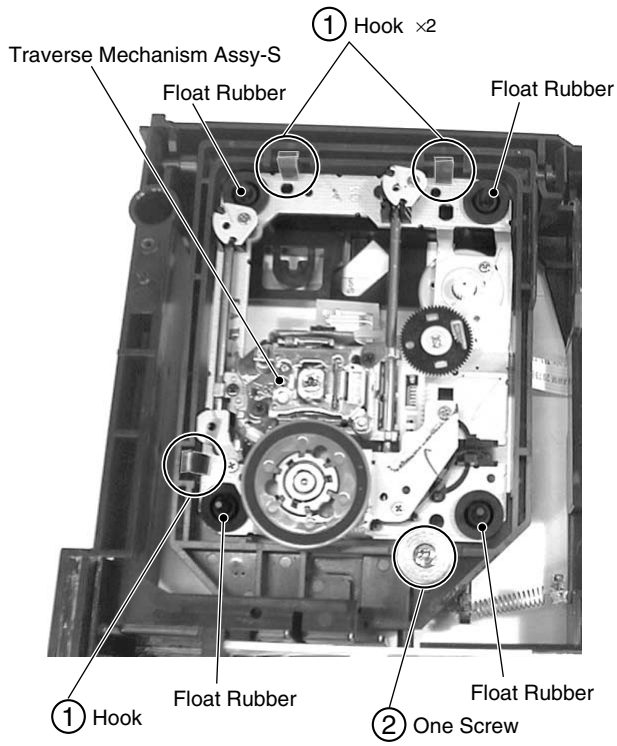
• **Bottom View**



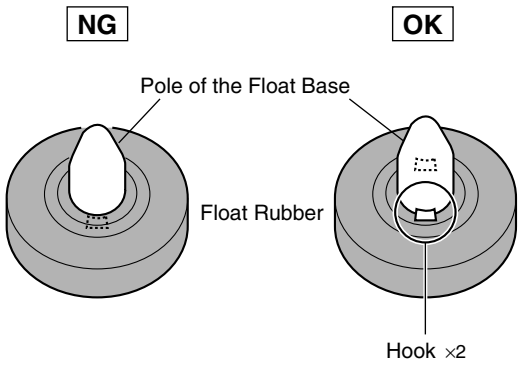


Exchange

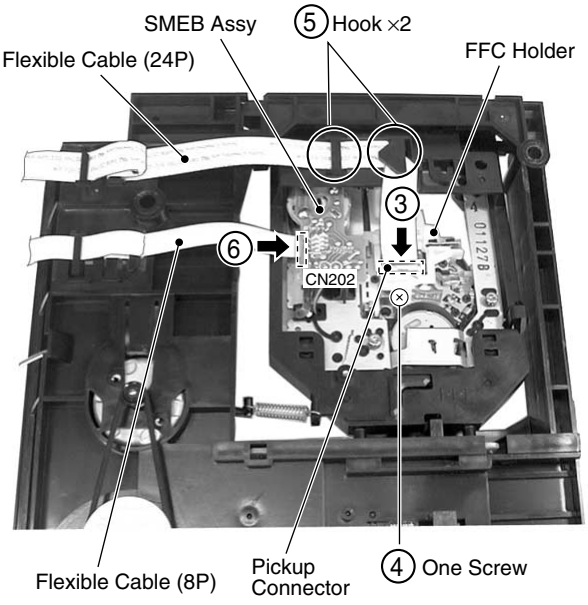
● Assembly



Check the Float Rubbers ×4

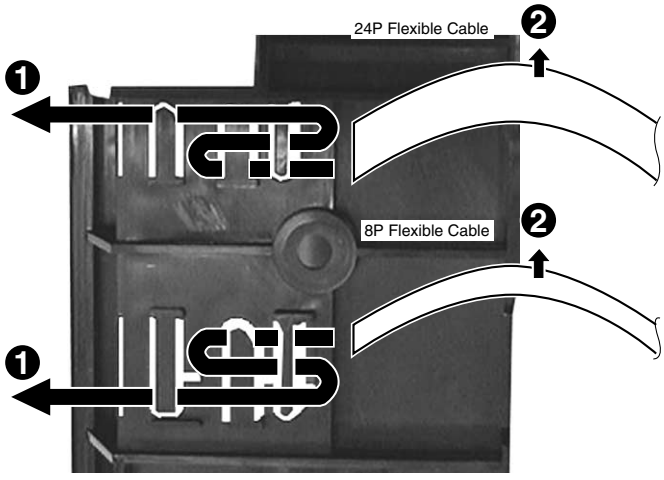


• **Bottom View**

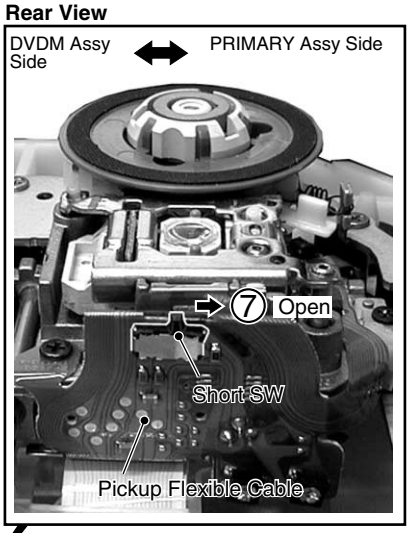


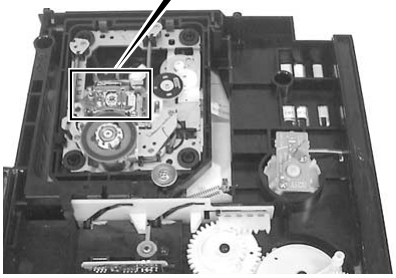
Reference

Styling of the Flexible Cables

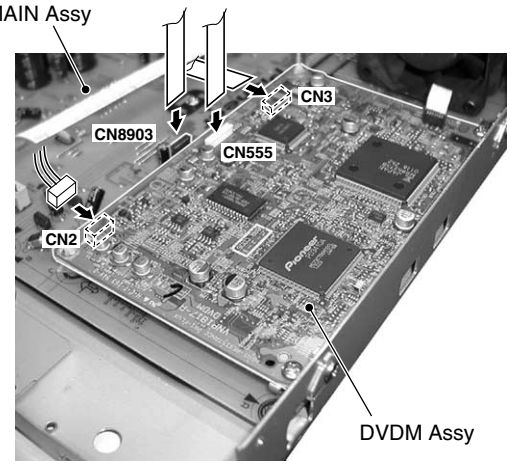


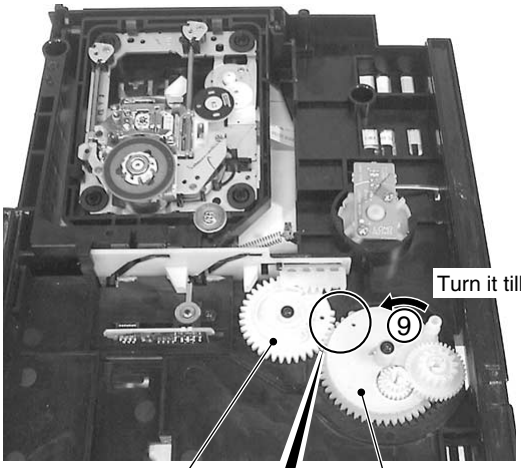
Rear View



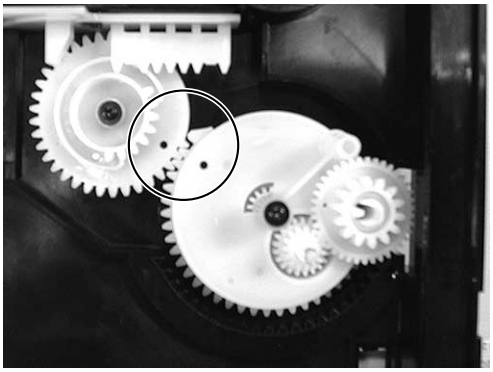


⑧ Connect four connectors.



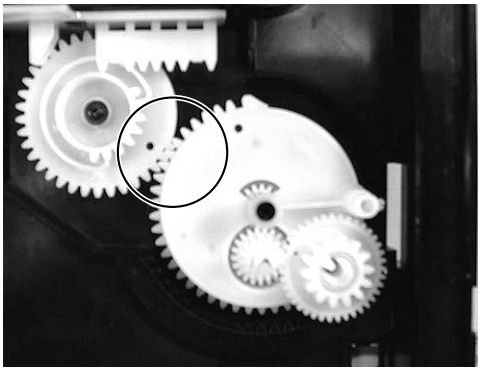


OK

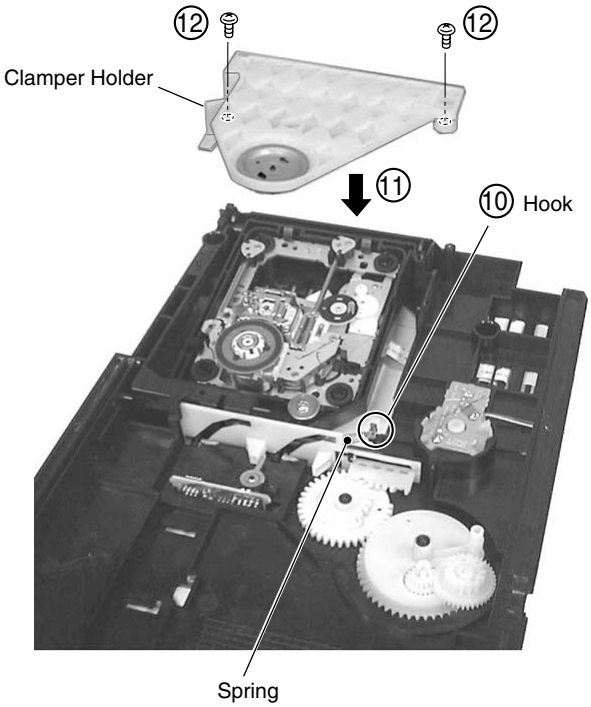


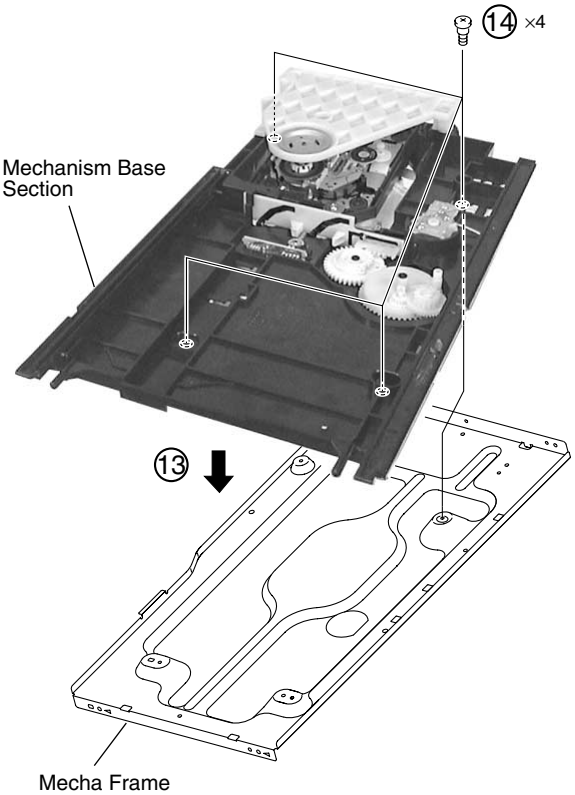
Match it between first teeth of the gear.

NG



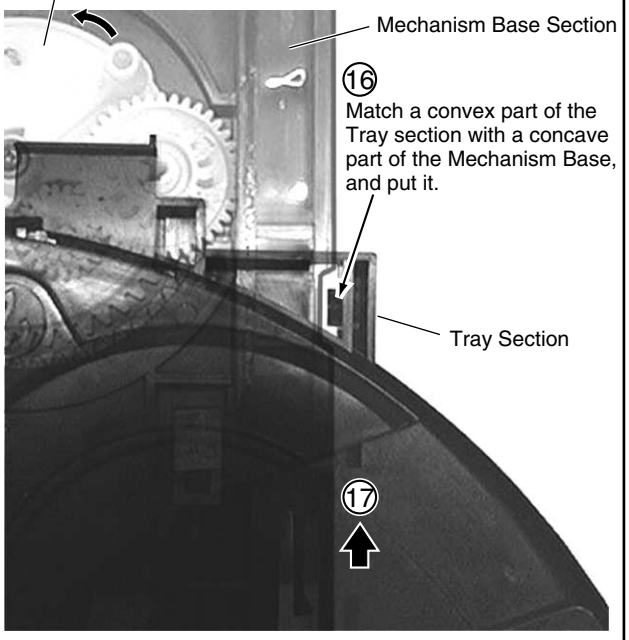
When the tooth of gear deviates more than two or three tooth, Strange sound is generated, and cause trouble.


⑫
⑫
Clamper Holder
⑪
⑩ Hook
Spring

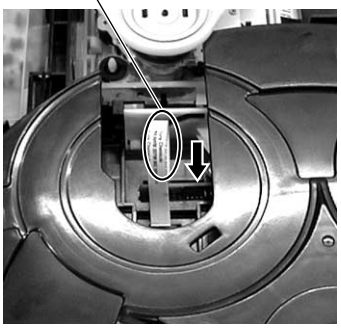

⑭ ×4
Mechanism Base Section
⑬
Mecha Frame

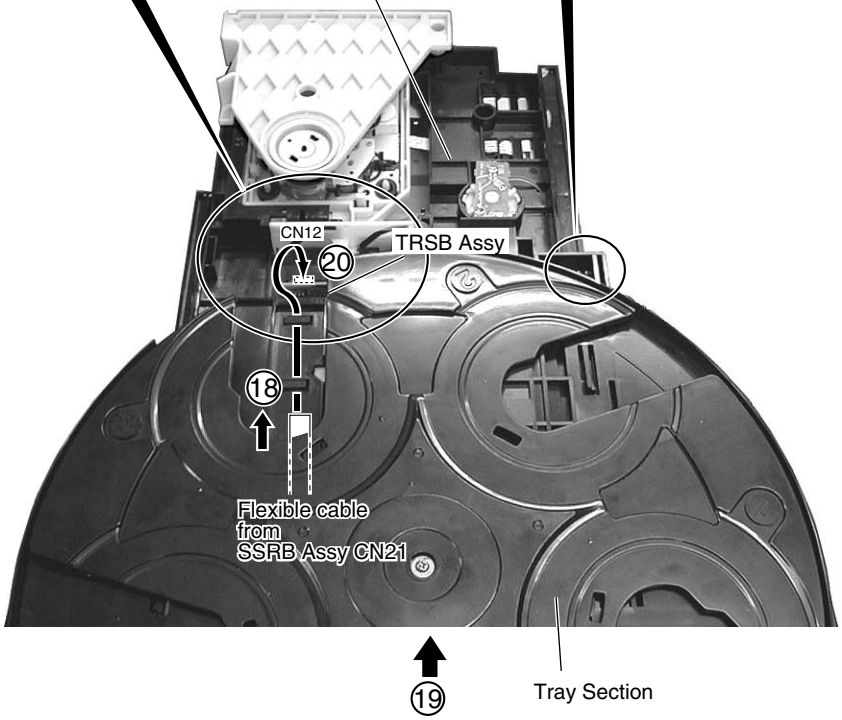
(15) Assemble the Tray Section to the Mechanism Base Section

Confirmation :
Fully turning the Planet Base to an arrow direction.


Mechanism Base Section
(16)
Match a convex part of the Tray section with a concave part of the Mechanism Base, and put it.
Tray Section
(17)

(21) Bring an extra flexible cable close to the front side.

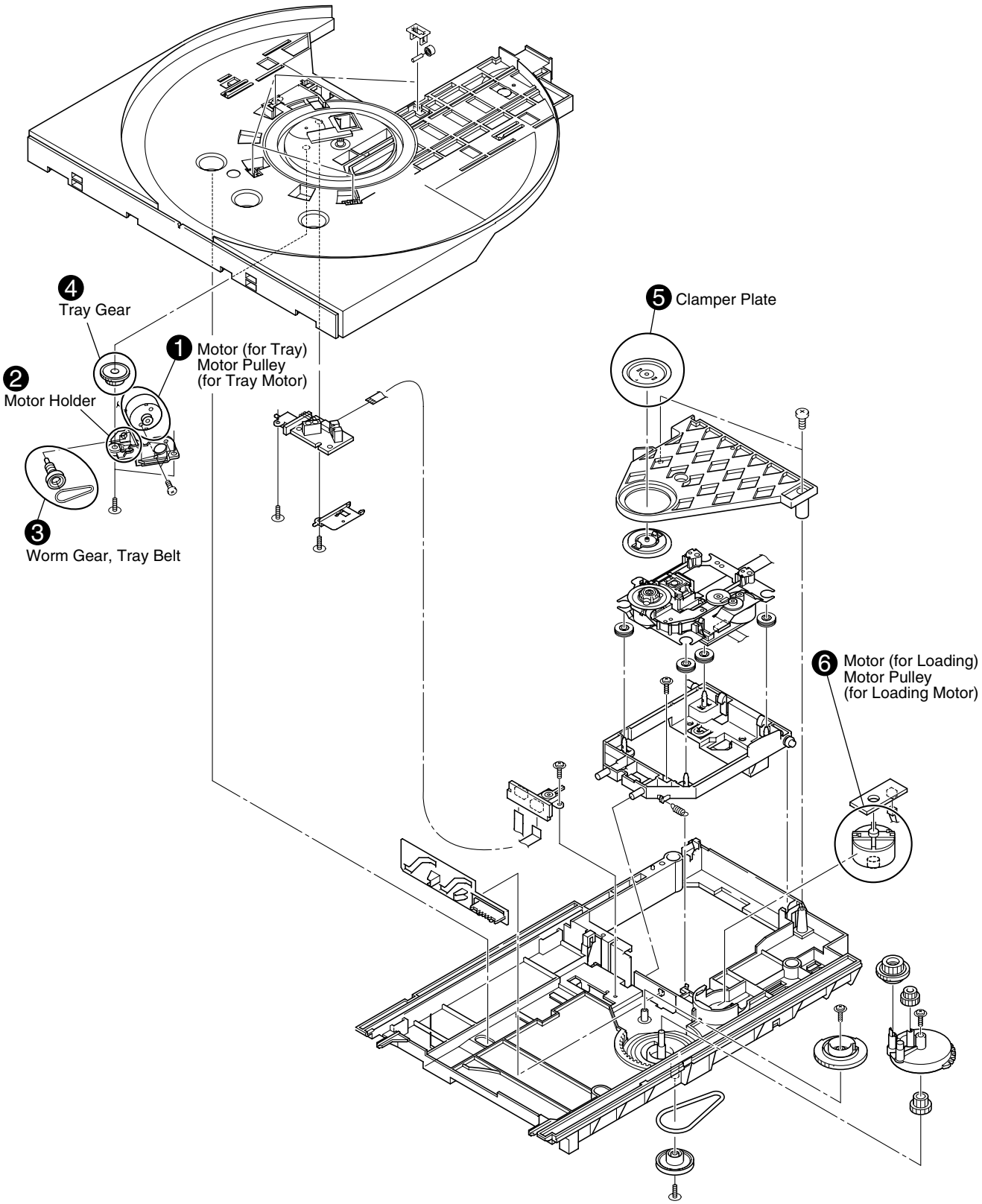




(22) Assemble the Front Panel Section.

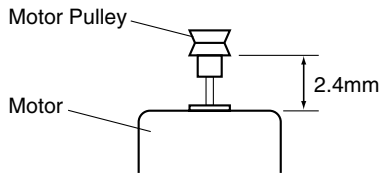
(23) Assemble the Bonnet. (Screws × 11)

● Important Points when Assembling the Mechanism Section

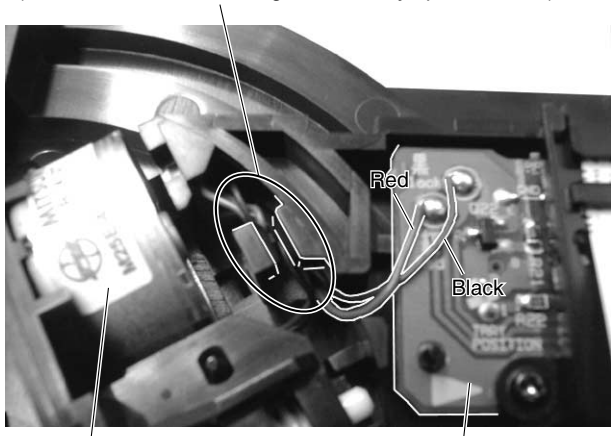


❶ Motor (for Tray), Motor Pulley (for Tray Motor)

Adjust the height of the Motor Pulley to 2.4mm.



Wiring lead wires into the hook of Motor Holder.
(So that lead wires are caught at the Tray open or close.)

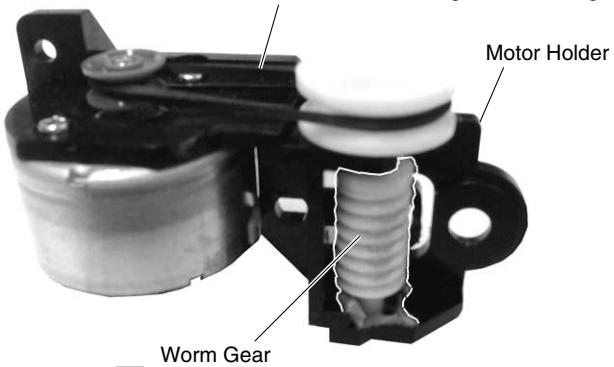


❷ Motor Holder

Apply Lubricating Oil (GYA1001) to the holder part.

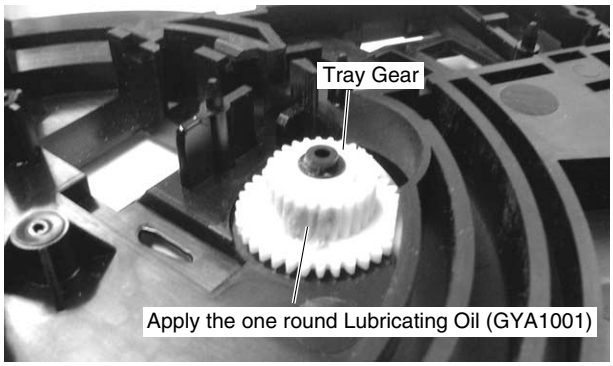
❸ Worm Gear and Tray Belt

Tray Belt
Be carefull not to damage it in exchange.



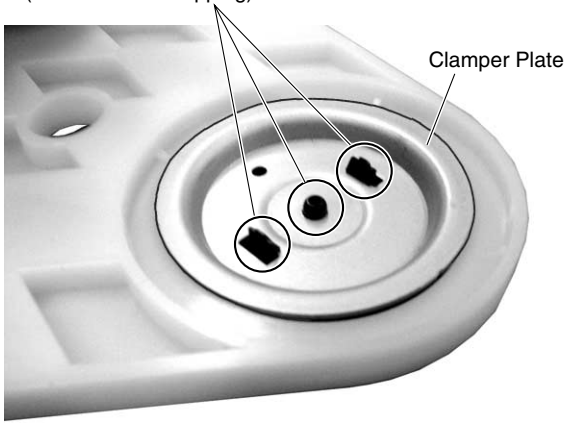
Apply the one round Lubricating Oil (GYA1001)

❹ Tray Gear



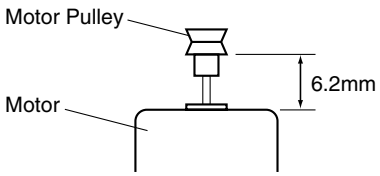
❺ Clamper Plate

Apply the adhesive on the inside of hooks.
(Prevention of dropping)



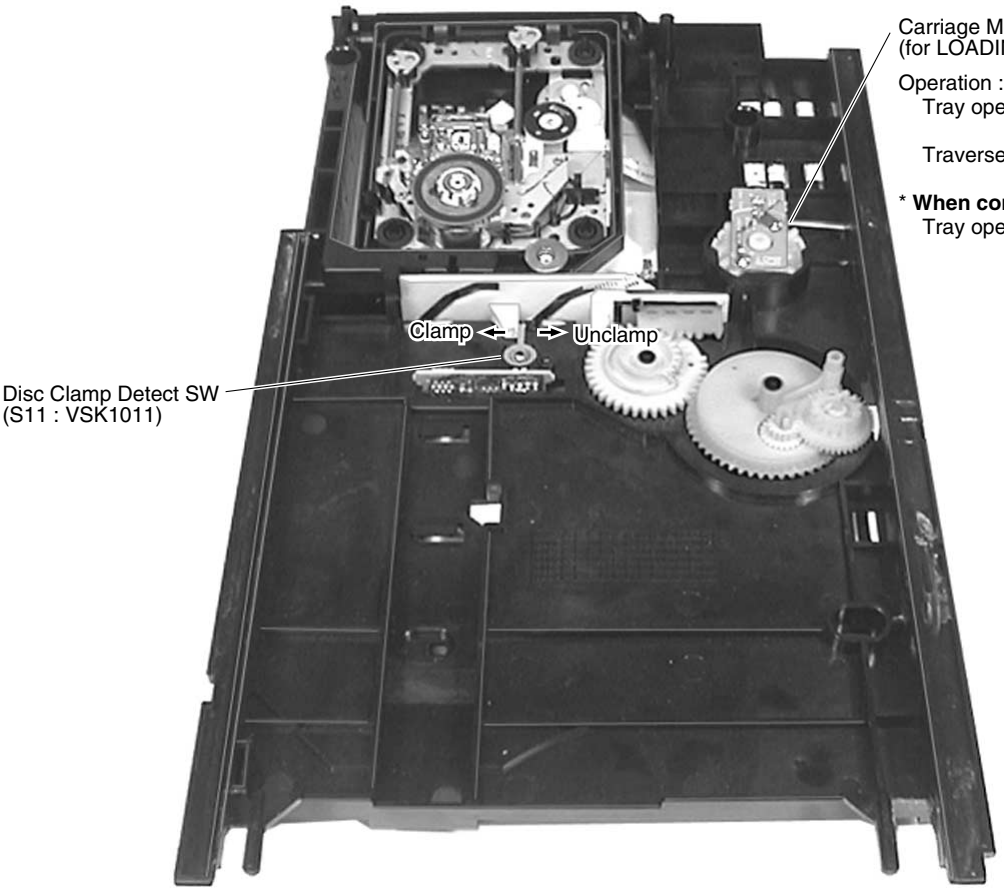
❻ Motor (for Loading), Motor Pulley (for Loading Motor)

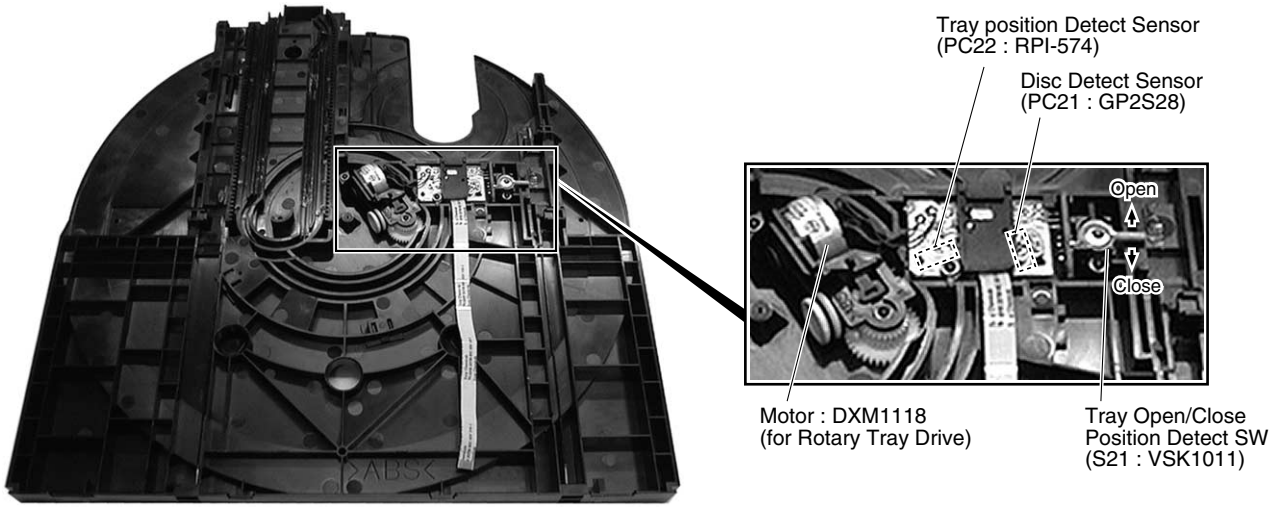
Adjust the height of Motor Pulley to 6.2mm.



7.1.8 TROUBLE SHOOTING FOR MECHANISM SECTION

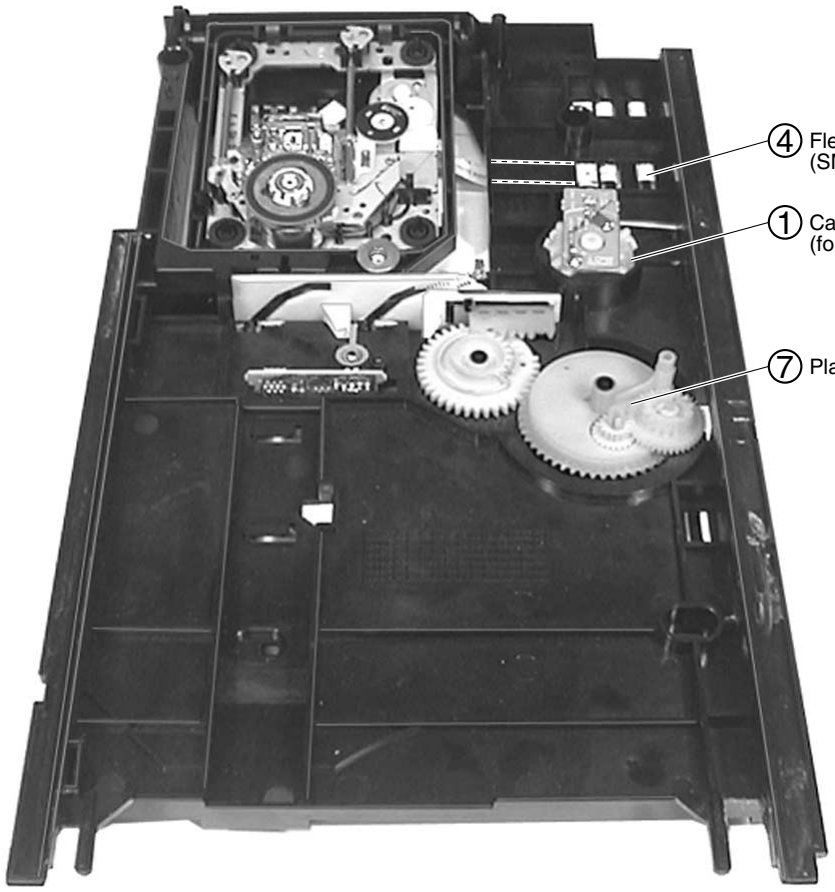
Location of Motors and Switches

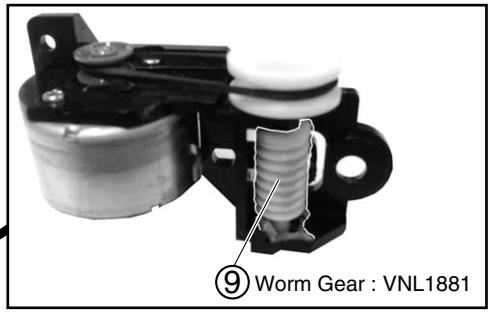


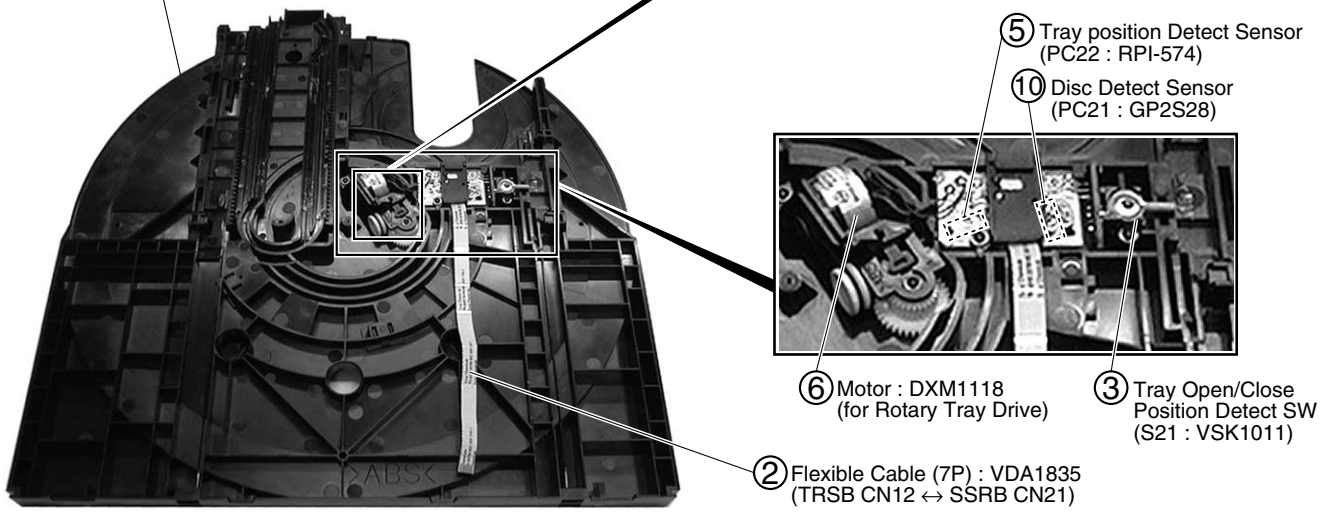


Trouble Shooting

Condition	Condition	Trouble Point
Tray does not open. (Nothing works) POWER OFF Key → "OFF" indication does not disappear ⏏ (OPEN) key → "OPEN" indication does not disappear ► (PLAY) key → It becomes indication of "OPEN" from "NO DISC", and stop by the condition. (When a disc is not put in the Tray.)	Loading Motor is damage, disconnection or contact defectiveness.	①
Tray does not open. (Hear the clatter continuation sound.) It becomes the state that flashed indication of " 1 2 3 4 5 ".	Contact defectiveness of Flexible Cable (7P) or the connector comes off, etc.. Tray Open/Close Position SW (S21) is damage or contact defectiveness, etc..	② ③
Tray opens it in POWER ON freely, and stay by the state.	Contact defectiveness of Flexible Cable (8P) or the connector comes off, etc..	④
Rotary Tray does not stop at the home position. (May stop on the way of rotation suddenly.)	Tray Position Detect Sensor (PC22) is damage or contact defectiveness, etc..	⑤
"CHANGE" indication does not change in POWER ON, and Rotary Tray does not move. (In this case only opening and closing of Tray are possible.)	Motor for Rotary Tray Drive is damage, disconnection or contact defectiveness.	⑥
Hear the clatter sound in clamp of the disc.	A gear of Planet Base deviates.	⑦
Rotation of Rotary Tray does not stop in POWER ON. In this case indication more than two which seems to be " 1 2 3 4 5 " lights, and abnormal indication appears.	Slit part of bottom of the Rotary Tray is damaged.	⑧
When Rotary Tray turns, hear the rattle and large sound.	Damage of Worm Gear or grease is insufficient.	⑨
Playback even if indicates it with "NO DISC". Take time till playbacks.	Disc Detect Sensor (PC21) is damage or contact defectiveness, etc..	⑩


④ Flexible Cable (8P)
(SMEB CN202 ↔ DVDM CN3)
① Carriage Motor : VXM1033
(for LOADING)
⑦ Planet Base : VNL1874


⑨ Worm Gear : VNL1881


⑧ Rotary Tray : VNK4739
⑤ Tray position Detect Sensor
(PC22 : RPI-574)
⑩ Disc Detect Sensor
(PC21 : GP2S28)
⑥ Motor : DXM1118
(for Rotary Tray Drive)
③ Tray Open/Close
Position Detect SW
(S21 : VSK1011)
② Flexible Cable (7P) : VDA1835
(TRSB CN12 ↔ SSRB CN21)

7.2 PARTS
7.2.1 IC

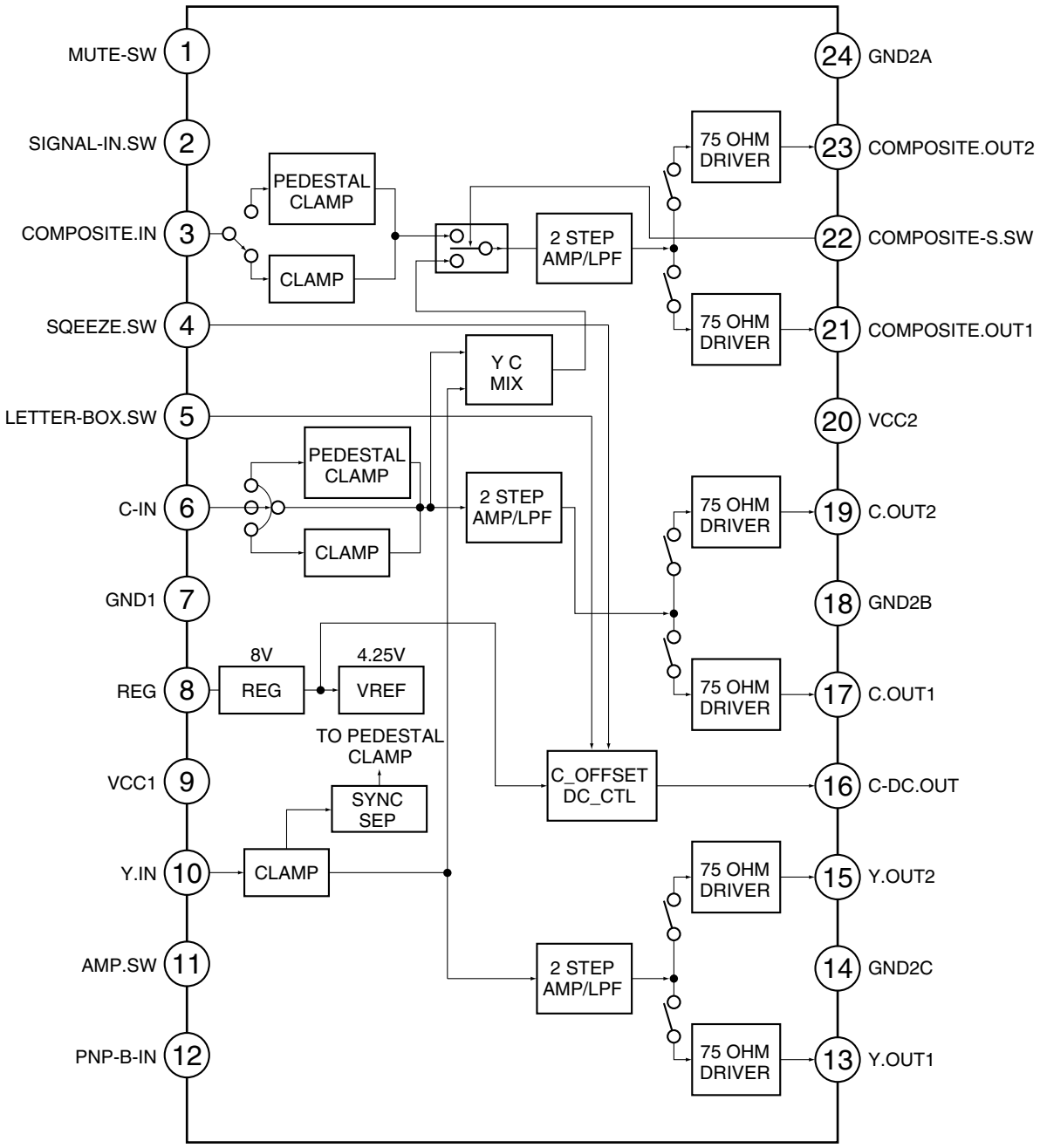
• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

• List of IC
LA7139M, PDC092A

■ LA7139M (CONNECT ASSY : IC5351)

• Video Amp.

● Block Diagram



■ PDC092A (MAIN ASSY : IC5501)

• Microcomputer IC

• Pin Function

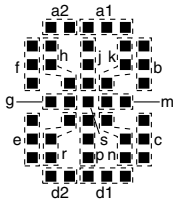
No.	Mark	Pin Name	I/O	Function
1	P16/T1PWML	XDSP MUTE	O	DSP mute output
2	P17/T1PWMH/BUZ	XCDC RST	O	CODEC reset
3	P30	CDC DO	O	CODEC Data
4	P31	CDC CK	O	CODEC Clock
5	P32	XCDC CS	O	CODEC Chip Select
6	P33	XDSP RST	O	DSP Reset
7	P34	XDSP SUB CS	O	DSP Chip Select (Sub)
8	P35	XDSP MAIN CS	O	DSP Chip Select (Main)
9	P36	WEN/DI	I/O	for DOWN LOAD
10	P37	WDO		
11	RES	XRESET		u-P Reset
12	XT1/AN10	TESTMODE	I	system test mode input
13	XT2/AN11	3.3DETECT (A/D)	I	(DVD) 3.3V Detection
14	VSS1	GNDD	–	–
15	CF1	CF1		Crystal Oscillator
16	CF2	CF2		
17	VDD1	V+5E	–	–
18	P80/AN0	KEY 0	A/D	Button control (Disp. Assy)
19	P81/AN1	ST/TUNE	A/D	TUNER STEREO TUNED detection
20	P82/AN2	MODEL 0 (A/D)	A/D	Determine Model intended for
21	P83/AN3	FAN DET	A/D	Fan Detection
22	P84/AN4	KEY 1	A/D	Button control (Disp. Assy)
23	P85/AN5	JOG	A/D	(Disp. Assy)
24	P86/AN6	XSTBY LED	O	
25	P87/AN7	NC		
26	P70/INT0/T0LCP/AN8	AC	I	AC pulse detection
27	P71/INT1/T0HCP/AN9	LT11	I	(DVD)
28	P72/INT2/T0IN	RDS CK	I	RDS Clock
29	P73/INT3/T0IN	REMOCON	I	Remote control (Disp. Assy)
30	S0/T0	G01	O	Grid
31	S1/T1	G02		
32	S2/T2	G03		
33	S3/T3	G04		
34	S4/T4	G05		
35	S5/T5	G06		
36	S6/T6	G07		
37	S7/T7	G08		
38	S8/T8	G09		
39	S9/T9	G10		
40	S10/T10	G11		
41	S11/T11	G12		
42	S12/T12	G13		
43	S13/T13	NC		
44	S14/T14	NC		
45	S15/T15	NC		
46	VDD3	V+5E	–	–
47	S16/PC0	S01	O	Segment
48	S17/PC1	S02		
49	S18/PC2	S03		
50	S19/PC3	S04		

No.	Mark	Pin Name	I/O	Function
51	VP	VFDP	–	Vacuum Fluorescence Display Power
52	S20/PC4	S05	O	Segment
53	S21/PC5	S06		
54	S22/PC6	S07		
55	S23/PC7	S08		
56	S24/PD0	S09		
57	S25/PD1	S10		
58	S26/PD2	S11		
59	S27/PD3	S12		
60	S28/PD4	S13		
61	S29/PD5	S14		
62	S30/PD6	S15		
63	S31/PD7	S16		
64	S32/PE0	S17		
65	S33/PE1	S18		
66	S34/PE2	NC		
67	S35/PE3	HP DET	I	Headphone Detect
68	S36/PE4	DIR DI	I	DIR Data In
69	S37/PE5	TX DATA	I	Data from PLL IC
70	S38/PE6	DIR ERR	I	DIR Error
71	S39/PE7	RDS DATA	I	RDS Data
72	VDD4	V+5E	–	–
73	S40/PF0	RYDE	I	SP Relay's ENABLE
74	S41/PF1	EXP CK	O	LED driver IC clock
75	S42/PF2	EXP DATA	O	LED driver IC data
76	S43/PF3	EXP CE	O	LED driver IC CE
77	S44/PF4	RDS ON/OFF	O	RDS IC oscillator ON/OFF
78	S45/PF5	TX MUTE	O	Tuner MUTE
79	S46/PF6	X AOUT MUTE	O	Audio Out mute
80	S47/PF7	X CENTRE MUTE	O	Centre Chunnel Audio Mute
81	S48/PG0	XDIR RST	O	DIR Reset
82	S49/PG1	POWER	O	system power control
83	S50/PG2	XRDY1	O	DVD MCU interface READY output
84	S51/PG3	DVD ON/OFF	O	DVD power control
85	P00	SYS CK	O	System Clock
86	P01	SYSDATA	O	System Data
87	P02	XDVDRST	O	DVD Reset
88	P03	XLINE MUTE	O	system audio MUTE
89	VSS2	GNDD	–	–
90	VDD2	V+5E	–	-–
91	P04	MAIN VOL CE	O	MAIN VOL IC M62446 CE
92	P05	PLL CE	O	PLL IC CE
93	P06	DIR CE	O	DIR Chip Enable
94	P07	WCLK	O	for DOWNLOAD
95	P10/SO0	DSP SO	O	DATA to YSS912
96	P11/SI0/SB0	DSP SI	I	DATA from YSS912
97	P12/SCK0	DSP CK	O	YSS912 (DSP) Clock
98	P13/SO1	SSI	O	Data to DVD MCU
99	P14/SI1/SB1	SSO1	I	Data from DVD MCU
100	P15/SCK1	SSCK	O	DVD MCU clock

7.2.2 DISPLAY

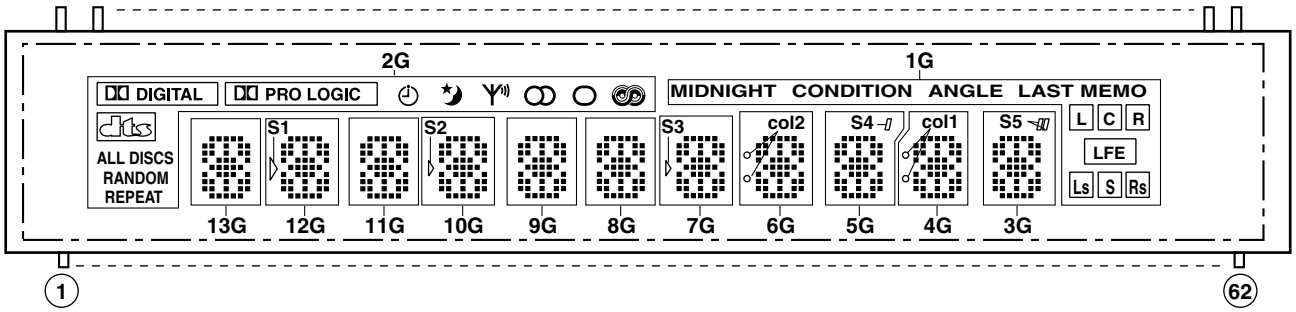
■ XAV3011 (DISPLAY ASSY :V5801)

• FL DISPLAY



(3G - 13G)

● Pin Assignment



● Anode Connection

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	—	S1	—	S2	—	—	S3	col2	S4	col1	S5	REPEAT	MIDNIGHT
P2	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	RANDOM	CONDITION
P3	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	S	ANGLE
P4	b	b	b	b	b	b	b	b	b	b	b	DISC	LAST MEMO
P5	h	h	h	h	h	h	h	h	h	h	h	ALL	L
P6	j	j	j	j	j	j	j	j	j	j	j	dts	C
P7	k	k	k	k	k	k	k	k	k	k	k	DIGITAL	R
P8	f	f	f	f	f	f	f	f	f	f	f	PRO LOGIC	Rs
P9	g	g	g	g	g	g	g	g	g	g	g	◴	LFE
P10	s	s	s	s	s	s	s	s	s	s	s	☾	S
P11	m	m	m	m	m	m	m	m	m	m	m	ᛉ	Ls
P12	c	c	c	c	c	c	c	c	c	c	c	∞	——
P13	r	r	r	r	r	r	r	r	r	r	r	○	——
P14	p	p	p	p	p	p	p	p	p	p	p	◎	——
P15	n	n	n	n	n	n	n	n	n	n	n	——	——
P16	e	e	e	e	e	e	e	e	e	e	e	——	——
P17	d1	d1	d1	d1	d1	d1	d1	d1	d1	d1	d1	——	——
P18	d2	d2	d2	d2	d2	d2	d2	d2	d2	d2	d2	——	——

● Pin Connection

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Connection	F1	F1	NP	NP	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX
Pin No.	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	
Connection	NX	NX	NX	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2	

Note

(1) F1, F2 : Filament
(2) NP : No pin
(3) NX : No extend pin
(4) DL : Datum Line
(5) 1G to 13G : Grid

7.3 CLEANING

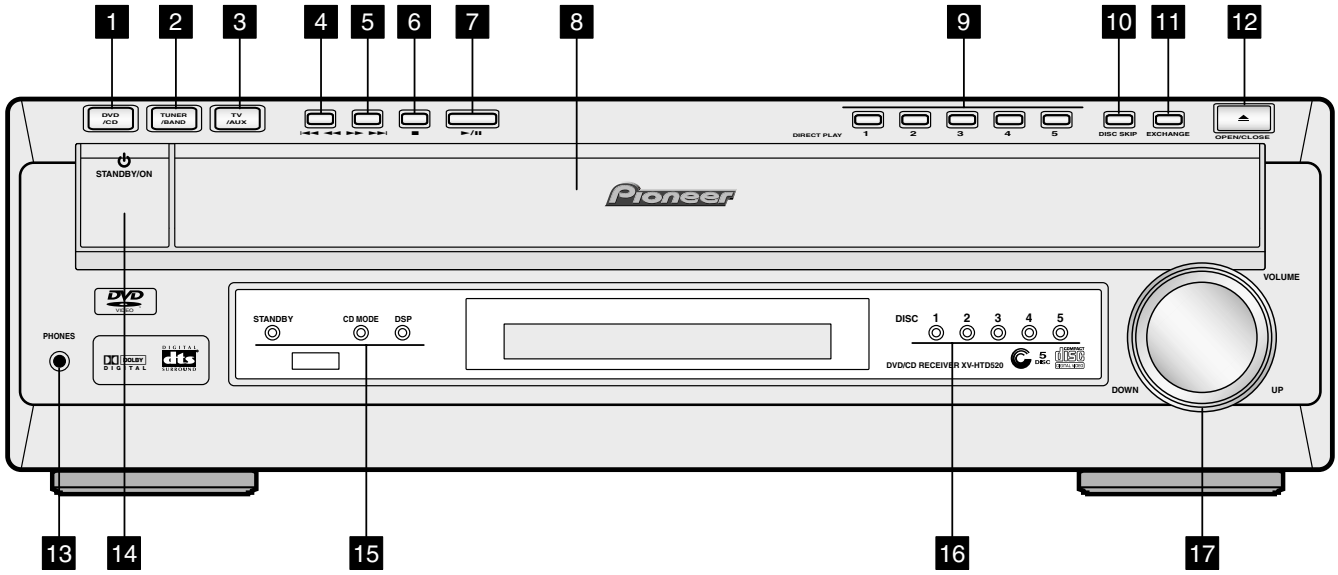
Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Pickup leneses	Cleaning liquid : GEM1004 Cleaning paper : GED-008

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

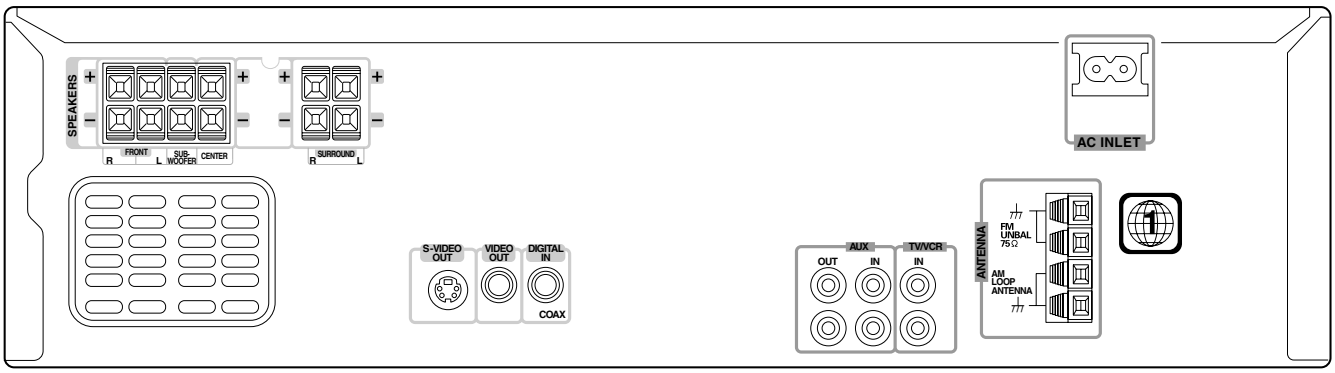
8. PANEL FACILITIES

■ Front Panel

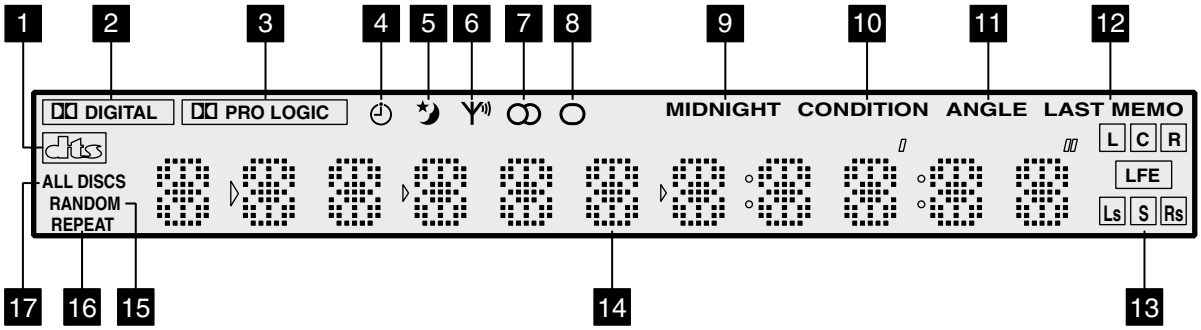


1 DVD/CD
2 TUNER/BAND
3 TV/AUX (/DIGITAL IN)
4 ⏮ ◀◀
5 ▶▶ ⏭
6 ■
7 ▶/❚❚
8 Disc tray
9 Disc buttons
10 DISC SKIP
11 EXCHANGE
12 ⏏ OPEN/CLOSE
13 PHONES Plug in a pair of headphones here.
14 STANDBY/ON
15 STANDBY indicator
CD MODE indicator
DSP indicator
16 DISC indicators
17 VOLUME Turn to adjust the volume.

■ Rear Panel

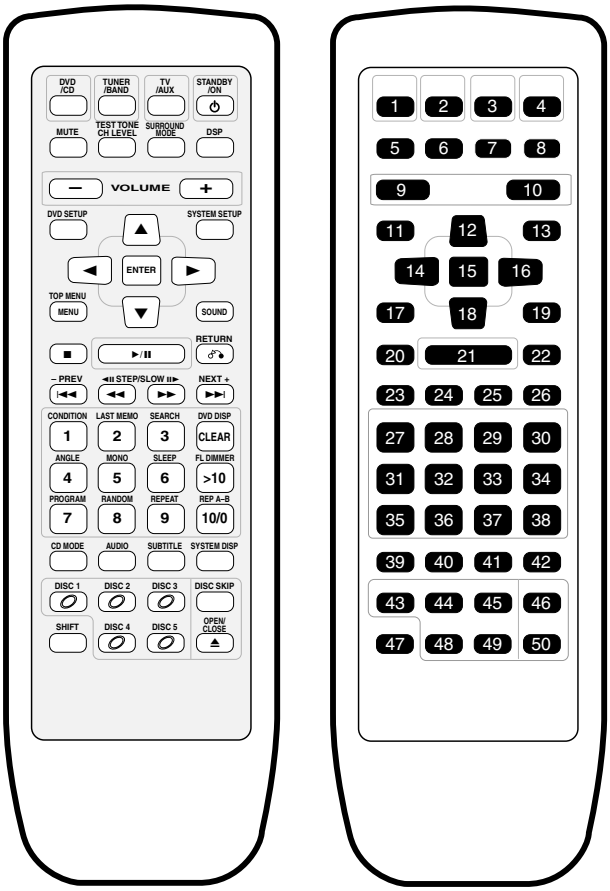


■ Display



1 DTS
2 DIGITAL
3 PRO LOGIC
4 Timer indicator
5 Sleep indicator
6 Tuned indicator
7 FM stereo indicator
8 FM mono indicator
9 MIDNIGHT
10 CONDITION
11 ANGLE
12 LAST MEMO
13 Channel indicators Show which channels are available on the current disc.
14 Character display When playing discs : Left to right displays disc number, title, chapter/track, minutes, seconds.
15 RANDOM
16 REPEAT
17 DISC | ALL DISCS Indicates the random or repeat mode.

■ Remote Control Unit



1 DVD/CD
2 TUNER/BAND
3 TV/AUX
4 STANDBY/ON
5 MUTE Silences/restores all sound.
6 TEST TONE/CH LEVEL
7 SURROUND MODE
8 DSP
9 VOLUME – Lowers the volume.
10 VOLUME + Raises the volume.
11 DVD SETUP
12 Cursor up Use for navigating menus and on-screen displays.
13 SYSTEM SETUP
14 Cursor left Use for navigating menus and on-screen displays.
15 ENTER
16 Cursor right Use for navigating menus and on-screen displays.
17 MENU
TOP MENU
18 Cursor down Use for navigating menus and on-screen displays.
19 SOUND
20 ■
21 ►/II
22 RETURN
23 I◄◄ / –PREV
24 ◄◄ / STEP/SLOW ◄II
25 ►► / STEP/SLOW II►
26 ►►I / NEXT+
27 1 / CONDITION (SHIFT & 1)
28 2 / LAST MEMO (SHIFT & 2)
29 3 / SEARCH (SHIFT & 3)
30 CLEAR Clears/cancels various functions
DVD DISP (SHIFT & CLEAR)
31 4 / ANGLE (SHIFT & 4)
32 5 / MONO (SHIFT & 5)
33 6 / SLEEP (SHIFT & 6)
34 >10 Selects numbers over 10
FL DIMMER (SHIFT & >10)
35 7 / PROGRAM (SHIFT & 7)
36 8 / RANDOM (SHIFT & 8)
37 9 / REPEAT (SHIFT & 9)
38 REP A–B (SHIFT & 10/0)
10/0 Number button (10 and 0)
39 CD MODE
40 AUDIO
41 SUBTITLE
42 SYSTEM DISP
43 DISC 1
44 DISC 2
45 DISC 3
46 DISC SKIP
47 SHIFT Hold down to access secondary button functions
48 DISC 4
49 DISC 5
50 OPEN/CLOSE ▲